

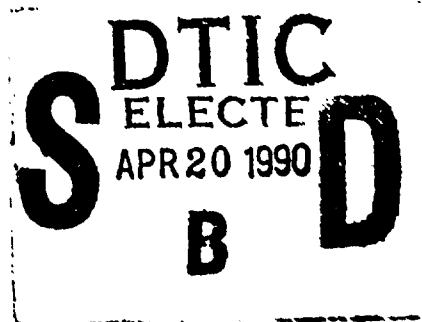


U.S. Department
of Transportation
Federal Aviation
Administration

FAA Statistical Handbook of Aviation

Calendar Year 1988

AD-A220 798



Availability is unlimited. Document may be released to the National Technical Information Service Springfield, Virginia 22161, for sale to the public.

ORDER INFORMATION

GPO operates U.S. Government bookstores all around the country where you can browse through the shelves and take your books home with you. Naturally, these stores can't stock all of the more than 21,000 titles in their inventory, but they'll be happy to order any Government book currently offered for sale and have it sent directly to you. All the bookstores accept VISA, MasterCard, and Superintendent of Documents deposit account orders. For more information, contact Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402, (202) 783-3238 or contact any of the following GPO Bookstores located throughout the United States.

Addresses are listed below for ordering purposes.

ATLANTA, GA

Room 100, Federal Building, 275 Peachtree Street, NE,
P.O. Box 56445, Atlanta, GA 30343; (404) 331-6947

BIRMINGHAM, AL

O'Neill Building, 2021 Third Avenue, North, Birmingham,
AL 35203; (205) 731-1056

BOSTON, MA

Thomas P. O'Neill Building, 10 Causeway Street, Room
179, Boston, MA 02222; (617) 565-6680

CHICAGO, IL

Room 1365, Federal Building, 219 S. Dearborn Street,
Chicago, IL 60604; (312) 353-5133

CLEVELAND, OH

Room 1653, Federal Building, 1240 E. 9th Street,
Cleveland, OH 44199; (216) 522-4922

COLUMBUS, OH

Room 207, Federal Building, 200 N. High Street, Columbus,
OH 43215; (614) 469-6956

DALLAS, TX

Room 1C46, Federal Building, 1100 Commerce Street,
Dallas, TX 75242; (214) 767-0076

DENVER, CO

Room 117, Federal Building, 1961 Stout Street, Denver,
CO 80294; (303) 844-3964

DETROIT, MI

Suite 160, Federal Building, 477 Michigan Avenue, Detroit,
MI 48226; (313) 226-7816

HOUSTON, TX

Texas Crude Building, 801 Travis Street, Suite 120,
Houston, TX 77002; (713) 653-3100

JACKSONVILLE, FL

Room 158, Federal Building, 400 W. Bay Street,
Jacksonville, FL 32202; (904) 791-3801

KANSAS CITY, MO

120 Bannister Mall, 5600 E. Bannister Road, Kansas City,
MO 64137; (816) 765-2256

LAUREL, MD

Warehouse Sales Outlet, 8660 Cherry Lane, Laurel, MD
20707; (301) 953-7974 or 792-0262

LOS ANGELES, CA

ARCO Plaza, C-Level, 505 South Flower Street, Los
Angeles, CA 90071; (213) 894-5841

MILWAUKEE, WI

Room 190, Federal Building, 517 E. Wisconsin Avenue,
Milwaukee, WI 53202; (414) 291-1304

NEW YORK, NY

Room 110, 26 Federal Plaza, New York, NY 10278;
(212) 264-3825

PHILADELPHIA, PA

Robert Morris Building, 100 North 17th Street,
Philadelphia, PA 19103; (215) 597-0677

PITTSBURGH, PA

Room 118, Federal Building, 1000 Liberty Avenue,
Pittsburgh, PA 15222; (412) 644-2721

PORTLAND, OR

1305 S.W. First Avenue, Portland, OR 97201-5801;
(503) 221-6217

PUEBLO, CO

World Savings Building, 720 North Main Street, Pueblo,
CO 81003; (719) 544-3142

SAN FRANCISCO, CA

Room 1023, Federal Building, 450 Golden Gate Avenue,
San Francisco, CA 94102; (414) 556-0643

SEATTLE, WA

Room 194, Federal Building, 915 Second Street, Seattle,
WA 98174; (206) 442-4270

WASHINGTON, DC

U.S. Government Printing Office, 710 North Capitol Street,
NW, Washington, DC 20401; (202) 275-2091

1510 H Street, NW., Washington, DC 20005; (202) 653-5075

MANAGEMENT STANDARDS & STATISTICS DIVISION PUBLICATION INFORMATION

Below is a list of the publications compiled by the Management Standards & Statistics Division. Questions may be directed to us by phone: (202) 267-9938, or by writing Federal Aviation Administration, Management Standards & Statistics Division (AMS-400), 800 Independence Avenue, S.W., Washington, DC 20591.

FAA Statistical Handbook of Aviation is a convenient source for historical data. It presents statistical information pertaining to the Federal Aviation Administration, the National Airspace System, Airports, Airport Activity, U.S. Civil Air Carrier Fleet, U.S. Civil Air Carrier Operating Data Airmen, General Aviation Aircraft, Aircraft Accidents, Aeronautical Production & Import/Export.

Reporting period:	Calendar Year
Latest edition:	1988 data
Order from:	U.S. Government Printing Office or National Technical Information Service
Date 1989 information will be available:	Various
Date next publication is scheduled:	November 1990 (1989 data)
Person to contact:	Patricia Beardsley

U.S. Civil Airmen Statistics is an annual study of detailed airmen statistics. It contains calendar year statistics on pilot and nonpilots and the number of certificates issued.

Reporting period:	Calendar Year
Latest edition:	1988
Order from:	Management Standards & Statistics Division or National Technical Information Service
Date 1989 information is available:	February 1990
Date next publication is scheduled:	March 1990 (1989 data)
Person to contact:	Patricia Carter

Census of U.S. Civil Aircraft is an annual publication that includes statistical data on the registered civil fleet, air carrier aircraft, and general aviation aircraft—both registered and active, detailed reports for general aviation aircraft by owner's state and county, and registered aircraft by make and model.

Reporting period:	Calendar Year
Latest edition:	1988 data
Order from:	U.S. Government Printing Office, or National Technical Information Service
Date 1989 Information will be available:	May 1990
Date next publication is scheduled:	August 1990 (1989 data)
Person to contact:	Patricia Beardsley

FAA Air Traffic Activity furnishes terminal and en route air traffic activity information (e.g., takeoffs & landings, flight plans filed) of the National Airspace System. The data is collected/compiled from the FAA-operated Airport Traffic

Control Towers, Air Route Traffic Control Centers, Flight Service Stations, Approach Control Facilities, and FAA Contract-towered airports.

Reporting period:	Fiscal Year
Latest edition:	1988 data
Order from:	U.S. Government Printing Office or National Technical Information Service
Date 1989 information will be available:	April 1990
Date next publication is scheduled:	May 1990 (1989 data)
Person to contact:	Nancy Trembley

General Aviation Activity and Avionics Survey publication presents the results of the general aviation activity and avionics survey conducted to obtain information on the activity and avionics of the U.S. registered general aviation aircraft fleet. The survey reveals estimated flying time of the active general aviation aircraft, and other statistics by manufacturer/model group, aircraft type, state and region of based aircraft, and primary use. Estimates are included on fuel consumption, lifetime airframe hours, avionics, and engine hours.

Reporting period:	Calendar Year
Latest edition:	1988 data
Order from:	Government Printing Office or National Technical Information Service
Date 1989 Information will be available:	November 1990
Date next publication is available:	December 1990 (1989 data)
Person to contact:	Shung-Chai Huang

FAA Directory is usually published twice a year, it contains six sections of data: Washington/Region/Center headquarters' managers; field facilities' managers/ supervisors; regional area maps/organizational charts; alphabetical listing; special interest groups; and glossary.

Latest edition:	October 1989
Order from:	U.S. Government Printing Office
Date next publication is scheduled:	May 1990
Person to contact:	Alfredia Brooks

Airport Activity Statistics of Certificated Route Air Carriers is a joint publication of the Federal Aviation Administration (FAA) and the Research & Special Programs Administration (RSPA). RSPA furnishes airport activity data on certificated route air carriers; FAA organizes/publishes it. Included in the data are passenger enplanements, tons of enplaned freight, express and mail. Both scheduled/nonscheduled service and domestic/international operations shown by airport and carrier are also included. Breakdown of data includes departures/enplanements/cargo/mail by airport, carrier & type of operation, and type of aircraft.

Reporting period:	Calendar Year
Latest edition:	1988 data
Order from:	Government Printing Office or National Technical Information Service
Date 1989 Information will be available:	September 1990
Date next publication is available:	November 1990 (1989 data)
Person to contact:	Patricia Beardsley

PREFACE

The FAA Statistical Handbook of Aviation is published annually by the Federal Aviation Administration (FAA). Its prime purpose is to serve as a convenient source for historical data and to assist in evaluating progress.

The Handbook should provide a valuable source of information for the Department of Transportation (DOT), operating offices of the FAA, the Research and Special Programs Administration (RSPA), and other government agencies, as well as nongovernment organizations interested in aviation.

Chapter I deals with the FAA and its functions. This section also includes a comparison of the agency's appropriations and the agency's personnel complement.

National Airspace System data reflecting the fiscal and calendar year workload of the FAA air traffic facilities—terminal and en route—are contained in Chapter II. This chapter contains air traffic activity reported by FAA-operated airport traffic control towers, air route traffic control centers, and domestic and international flight service stations.

Selected statistics concerning the Nation's airport facilities are presented in Chapter III by state within FAA regions. In addition to the total count of these facilities, this chapter includes statistics pertaining to the physical characteristics (paved vs. unpaved runways, lighted vs. unlighted runways, length of runways, etc.), and funds allocated for airport development.

Airline passenger, cargo, and freight statistics shown in Chapter IV were prepared from data published in Airport Activity Statistics of Certificated Route Air Carriers, which is issued jointly by the RSPA and the FAA. This chapter covers the activity of the large scheduled certificated air carriers only.

The U.S. civil air carrier fleet is described in detail in Chapter V. These statistics were developed from monthly Aircraft/Engine Utilization Reports submitted by the air carrier operators. The aircraft population discussed here is not an inventory of the aircraft owned by the air carriers, but represents the aircraft reported in air carrier use during the last quarter of the year.

U.S. civil air carrier operating data—revenue passenger miles flown, available seat-miles, enplanements, revenue ton-miles flown, revenue aircraft miles flown, and operating revenues and expenses of the large certificated air carriers—are presented in Chapter VI. These statistics were obtained from forms submitted by the large certificated route air carriers to the RSPA. Also included in Chapter VI are traffic statistics for the small certificated and commuter air carriers.

The airmen data shown in Chapter VII were obtained from official airmen certification records maintained by the FAA's Mike Monroney Aeronautical Center in Oklahoma City, Oklahoma. These data included the number of airmen as of the end of each year and the number of certificates issued during the year.

KEYWORDS: Federal Aviation Administration, Air Transportation, Civil Aviation,
The general aviation aircraft data presented in Chapter VIII were collected from the General Aviation Activity and Avionics Survey. Numbers of active aircraft and hours flown are shown for each aircraft type, use category and state.

Aircraft accidents, air carrier, commuters, air taxis, and general aviation, appear in Chapter IX. These data were furnished by the National Transportation Safety Board (NTSB).

Aeronautical production and imports/exports are summarized in Chapter X. The production information was obtained from reports submitted to the U.S. Bureau of the Census by all known producers of complete aircraft and aircraft engines. Import/export data were obtained through Aerospace Industries Association, Inc. based on Bureau of the Census data from special monthly compilation of annual reports FT-446 and FT-410, respectively.

The FAA Statistical Handbook of Aviation is prepared by the Statistical Analysis Branch, Management Standards and Statistics Division, Office of Management Systems, with the cooperation of other FAA offices. Special appreciation is expressed to the Research and Special Programs Administration, U.S. Bureau of the Census, the National Transportation Safety Board, and many municipal and private organizations for their assistance.

Commercial Aviation, National Airspace System, Air Traffic Facilities, Airport, Facilities, Airline Passenger, Cargo, Freight, U.S. Civil Air Carrier, Civil Airmen, Aircraft Accidents, Air Carrier, Commuters, Air Taxis, (back on)

cont.

Aeronautical Production, Imports/Exports, Research and Special

→ Programs (RSPA)

JG

TABLE OF CONTENTS

	Page
Order Information	i
Management Standards and Statistics Division Publication Information.....	iii
Preface	v
I. THE FEDERAL AVIATION ADMINISTRATION	1
1.1 FAA Budget Authority Fiscal Years 1985 - 1989.....	3
1.2 FAA Civilian Employees at End of Fiscal and Calendar Years 1979 - 1988.....	4
1.3 Number of Total Paid FAA Employees as of December 31, 1979 - 1988	4
II. THE NATIONAL AIRSPACE SYSTEM.....	5
2.1 U.S. Air Route Airway Mileage 1979 - 1988	7
2.2 FAA Air Route Facilities and Services: 1979 -1988.....	7
2.3 Air Traffic Activity at Air Route Traffic Control Centers, by Aviation Category Fiscal Years 1984 - 1988	11
2.4 Air Traffic Activity at Airport Traffic Control Towers, by Aviation Category Fiscal Years 1984 - 1988	11
2.5 Air Traffic Activity at FAA Facilities, by Aviation Category Fiscal Years 1984 - 1988.....	12
2.6 Air Traffic Activity at Flight Service Facilities Fiscal Years 1984 - 1988.....	12
2.7 Aircraft Contacted at Flight Service Facilities, by Aviation Category Fiscal Years 1984 - 1988	13
2.8 Top 25 FAA-Operated Airport Traffic Control Towers, by Rank Order of Total Operations and by Aviation Category Including Air Carrier Rank Fiscal Year 1988	14
2.9 Top 25 FAA-Operated Airport Traffic Control Towers, by Rank Order of Air Carrier Operations and by Aviation Category Including Total Operations Rank Fiscal Year 1988	15
2.10 Total FAA Air Traffic Activity by Region and State, and by FAA-Operated Towers, Air Route Traffic Control Centers, Flight Service Stations, and International Flight Service Stations Fiscal Year 1988	16
2.11 Air Traffic Activity at Air Route Traffic Control Centers, by Aviation Category Calendar Years 1984 - 1988	21
2.12 Air Traffic Activity at Airport Traffic Control Towers, by Aviation Category Calendar Years 1984 - 1988	21
2.13 Air Traffic Activity at FAA Facilities, by Aviation Category Calendar Years 1984 - 1988.....	22
2.14 Air Traffic Activity at Flight Service Facilities Calendar Years 1984 - 1988.....	22
2.15 Aircraft Contacted at Flight Service Facilities, by Aviation Category Calendar Years 1984 - 1988	23
2.16 Top 25 FAA-Operated Airport Traffic Control Towers, by Rank Order of Total Operations and by Aviation Category Including Air Carrier Rank Calendar Year 1988	24

	Page
2.17 Top 25 FAA-Operated Airport Traffic Control Towers, by Rank Order of Air Carrier Operations and by Aviation Category Including Total Operations Rank Calendar Year 1988.....	25
2.18 Total FAA Air Traffic Activity by Region and State, and by FAA-Operated Towers, Air Route Traffic Control Centers, Flight Service Stations, and International Flight Service Stations Calendar Year 1988.....	26
III. AIRPORTS.....	29
3.1 Total All Facilities on Record With FAA ' 1979 - 1988.....	31
3.2 U.S. Civil and Joint-Use Airports, Heliports, Stolports, and Seaplane Bases, and Reported Abandonments on Record, by FAA Region and State December 31, 1988.....	32
3.3 U.S. Civil and Joint-Use Airports, Heliports, Stolports, and Seaplane Bases, on Record, by Type of Ownership December 31, 1988.....	34
3.4 U.S. Civil and Joint-Use Airports, Heliports, Stolports, and Seaplane Bases on Record, by Length of Longest Runway, by FAA Region and State December 31, 1988.....	36
3.5 U.S. Civil and Joint-Use Airports, Heliports, Stolports, and Seaplane Bases on Record, by FAA Region and State and Other Areas December 31, 1979 - 1988.....	38
3.6 Airport Improvement Program: Fiscal Year 1988.....	40
IV. AIRPORT ACTIVITY OF CERTIFICATED ROUTE AIR CARRIERS	43
4.1 Large Scheduled Certificated Air Carriers as of December 31, 1987	46
4.2 American Flag Airline Traffic Enplaned—System Total Large Scheduled Certificated Air Carriers Scheduled and Nonscheduled Operations 1978 - 1987.....	47
4.3 American Flag Airline Traffic Enplaned—50 States Large Scheduled Certificated Air Carriers Scheduled and Nonscheduled Operations 1978 - 1987	47
4.4 American Flag Airline Traffic Enplaned—U.S. Territories Large Scheduled Certificated Air Carriers Scheduled and Nonscheduled Operations 1978 - 1987.....	48
4.5 American Flag Airline Traffic Enplaned—Foreign Countries Large Scheduled Certificated Air Carriers Scheduled and Nonscheduled Operations 1978 - 1987.	48
4.6 Summary of Aircraft Departures, Enplaned Revenue Passengers, and Enplaned Revenue Tons of Cargo and Mail by Type of Operation, by Type of Service, by Carrier Group, and by Air Carrier 12 Months Ended December 31, 1988.....	49
4.7 Summary of Aircraft Departures, Enplaned Revenue Passengers, and Enplaned Revenue Tons of Cargo and Mail by Type of Operation, by Type of Service, and by State and Country 12 Months Ended December 31, 1988	55
4.8 Aircraft Departures, Enplaned Revenue Passengers, and Enplaned Revenue Tons of Cargo and Mail in Total Operations, All Services at Large Air Traffic Hubs 12 Months Ended December 31, 1988.....	71
4.9 Aircraft Departures, Enplaned Revenue Passengers, and Enplaned Revenue Tons of Cargo and Mail in Total Operations, All Services at Medium Air Traffic Hubs 12 Months Ended December 31, 1988.....	74
4.10 Aircraft Departures, Enplaned Revenue Passengers, and Enplaned Revenue Tons of Cargo and Mail in Total Operations, All Services at Small Air Traffic Hubs 12 Months Ended December 31, 1988.....	77
4.11 Top 100 Airports in Rank Order by Total Enplaned Passengers Large Scheduled Certificated Air Carriers Scheduled and Nonscheduled Operations 1988.....	82

	Page
V. U.S. CIVIL AIR CARRIER FLEET.....	85
5.1 Total Aircraft Reported in Operation by Air Carriers by Type of Aircraft: 1979 - 1988	87
5.2 Aircraft Reported in Operation by Air Carriers, by Manufacturer and Model 1979 - 1988.....	88
5.3 Total Flight Hours For Aircraft Reported in Operation by Air Carriers, by Manufacturer and Model 1979 - 1988	91
5.4 Total Large Aircraft Reported in Operation by Domestic, Flag and Supplemental/Scheduled Cargo Air Carriers and Commercial Operators by Carrier, and by Engine Type: December 1988	94
5.5 Total Small Aircraft Reported in Operation by Commuter Air Carriers and On-Demand Air Taxis by Carrier, and by Engine Type: December 1988.....	97
VI. U.S. CERTIFICATED AIR CARRIERS—OPERATING DATA.....	101
6.1 Large Certificated Air Carriers 1987 and 1988.....	103
6.2 Traffic Data, All Services of the Large Certificated Air Carriers 1987 and 1988	104
6.3 Revenue Aircraft Departures, Miles and Hours Flown, and Average Speed in Domestic All Services of the Large Certificated Air Carriers 1979 - 1988.....	105
6.4 Revenue Aircraft Departures, Miles and Hours Flown, and Average Speed in International All Services of the Large Certificated Air Carriers 1979 - 1988.....	105
6.5 Total Ton-Miles Available in All Services of the Large Certificated Air Carriers 1979 - 1988 ...	106
6.6 Revenue Ton-Miles Flown in All Services by Large Certificated Air Carriers 1979 - 1988	106
6.7 Passenger Operations in Scheduled Domestic Operations of the Large Certificated Air Carriers 1979 - 1988	107
6.8 Passenger Operations in Scheduled International Operations of the Large Certificated Air Carriers 1979 - 1988	107
6.9 Revenue Aircraft-Miles Flown in All Services of Large Certificated Air Carriers 1979 - 1988...	108
6.10 Operating Revenue of Domestic Operations, All Services Large Certificated Air Carriers Major, National, and Large Regional Groups 1979 - 1988	109
6.11 Operating Expenses of Domestic Operations, All Services Large Certificated Air Carriers Major, National, and Large Regional Groups 1979 - 1988	109
6.12 Operating Revenue of International Operations, All Services Large Certificated Air Carriers Major, National, and Large Regional Groups 1979 - 1988	110
6.13 Operating Expenses of International Operations, All Services Large Certificated Air Carriers Major, National, and Large Regional Groups 1979 - 1988	110
6.14 Operating Revenue, System, All Services Large Certificated Air Carriers Medium Regional Group 1982 - 1988.....	111
6.15 Operating Expenses, System, All Services Large Certificated Air Carriers Medium Regional Group 1982 - 1988.....	111
6.16 Small Certificated and Commuter Air Carriers 1987 and 1988.....	112
6.17 Small Certificated, Commuter and Large Certificated Medium Regional Air Carriers Traffic Data Scheduled Services Only 1981-1988.....	113

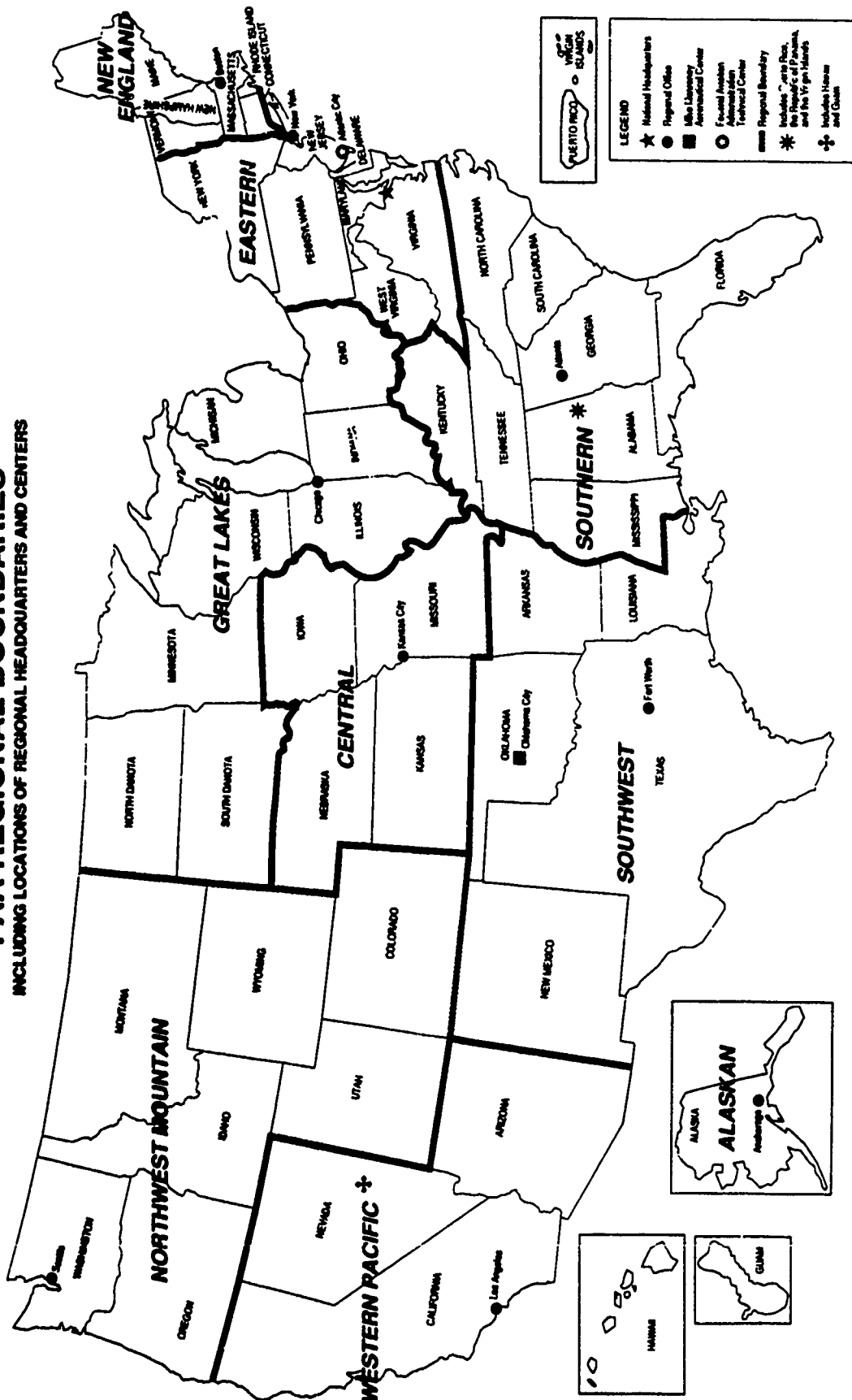
	Page
6.18 Small Certificated, Commuter and Large Certificated Medium Regional Air Carriers Traffic Averages Scheduled Services Only 1981-1988.....	113
VII. U.S. CIVIL AIRMEN.....	115
7.1 Estimated Active Pilot Certificates Held: December 31, 1979 - 1988.....	117
7.2 Estimated Active Women Pilot Certificates Held: December 31, 1979 - 1988.....	117
7.3 Estimated Active Pilot and Nonpilot Certificates Held, by Class of Certificates and by FAA Region: December 31, 1988.....	118
7.4 Estimated Active Pilots and Flight Instructors by FAA Region and State: December 31, 1988..	120
7.5 Estimated Active Women Pilots and Flight Instructors by FAA Region and State: December 31, 1988.....	122
7.6 Estimated Active Helicopter Pilots by Class of Certificates December 31, 1988.....	124
7.7 Estimated Active Glider Pilots By Class of Certificates December 31, 1988.....	124
7.8 Estimated Active Helicopter and Glider Pilots December 31, 1984-88.....	125
7.9 Estimated Total Pilots and Instrument Rated Pilots December 31, 1984-88.....	125
7.10 Estimated Active Pilot Certificates Held by Category and Age Group of Holder 1988, 1987, 1984.....	126
7.11 Average Age of Active Pilots by Category December 31, 1979 - 1988.....	127
7.12 Estimated Instrument Rating Held by Class of Certificates December 31, 1988 AND 1987.....	128
7.13 Estimated Instrument Ratings Held, by Class of Certificates, by FAA Region: December 31, 1988.....	129
7.14 Estimated Active Nonpilot Airmen Certificates Held, by FAA Region and State: December 31, 1988.....	130
7.15 Estimated Active Women Nonpilot Certificates Held, by FAA Region and State: December 31, 1987.....	132
7.16 Pilot Certificates Issued, by Category: Calendar Years 1984-1988.....	134
7.17 Pilot Certificates Issued, by Category and Conductor: December 31, 1987.....	135
7.18 Instrument Rating Issued: 1988, 1987, 1983.....	136
7.19 Student Certificates Issued, by Month: 1984 - 1988.....	137
VIII. GENERAL AVIATION AIRCRAFT.....	139
8.1 Active General Aviation Aircraft by Aircraft Type and Primary use: 1988.....	141
8.2 Active General Aviation Aircraft by Aircraft Type 1980 - 1988.....	142
8.3 Active General Aviation Aircraft Total Hours Flown, by Aircraft Type and Primary Use: 1988.....	143
8.4 Active General Aviation Aircraft Total Hours Flown, by Aircraft Type 1980 - 1988.....	144
8.5 Active General Aviation Aircraft Average Hours Flown, by Aircraft Type 1980 - 1988.....	145
8.6 Active General Aviation Aircraft and Hours Flown by FAA Region and State of Based Aircraft 1988.....	146

	Page
IX. AIRCRAFT ACCIDENTS.....	149
9.1 Air Carrier and General Aviation Aircraft Accidents and Fatalities 1988	151
9.2 Airlines Accidents, Fatalities, and Rates 1988	151
9.3 Airlines Fatal Accidents, Fatalities 1988	152
9.4 Airlines: Scheduled and Nonscheduled Service Accidents, Fatalities and Rates 1979 - 1988	153
9.5 Airlines: Scheduled Service Accidents, Fatalities and Rates 1979 - 1988.....	154
9.6 Airlines: Nonscheduled Service Accidents, Fatalities and Rates 1979 - 1988.....	155
9.7 Commuter Air Carriers Fatal Accidents, Fatalities 1988.....	155
9.8 Commuter Air Carrier: Aircraft Accidents, Fatalities and Rates 1979 - 1988.....	156
9.9 On-Demand Air Taxis Aircraft Accidents, Fatalities and Rates 1979 - 1988.....	157
9.10 U.S. General Aviation Flying Aircraft Accidents, Fatalities, and Rates 1979 - 1988	157
X. AERONAUTICAL PRODUCTION AND IMPORTS/EXPORTS.....	159
10.1 Total Civil Aircraft Production, Weight, and Cost Calendar Years 1979 - 1988	161
10.2 Number of Shipments of Complete Civil Aircraft 1979 - 1988	161
10.3 Number of U.S. Imports of Aerospace Products 1979 - 1988.....	162
10.4 Number of U.S. Exports of Aerospace Products 1979 - 1988	162
COMMON ACRONYMS	163
GLOSSARY	162

ILLUSTRATIONS

FAA REGIONAL BOUNDARIES.....	xii
AIR TRAFFIC HUBS	45

FAA REGIONAL BOUNDARIES INCLUDING LOCATIONS OF REGIONAL HEADQUARTERS AND CENTERS



I. THE FEDERAL AVIATION ADMINISTRATION

The Department of Transportation Act of 1966 established a new executive department known as the Department of Transportation. The general welfare, economic growth, stability, and security of the nation pointed to the need for the development of national transportation policies and programs effectively using the nation's transportation resources. The Act provided for inclusion of the Federal Aviation Agency in the Department as the Federal Aviation Administration.

Directed by an Administrator, who is appointed by the President, by and with the advice and consent of the Senate, the FAA has as its primary function the fostering of the development and safety of American aviation. More specifically, the FAA is responsible for developing the major policies necessary to guide the long-range growth of civil aviation; modernizing the air traffic control system; establishing in a single authority the essential management functions necessary to support the common needs of civil and military operations; providing for the most effective and efficient use of the airspace over the United States; and for the rulemaking responsibilities relative to these functions.

The FAA constructs, operates, and maintains the National Airspace System and the facilities which are a part of the system; it allocates and regulates the use of the airspace; it ensures adequate separation between aircraft operating in controlled airspace; and, through research and development programs, it provides new systems and equipment for improving utilization of the nation's airspace.

The Federal Aid to Airports Program (FAAP) authorized the FAA to make grants of federal funds to sponsors for airport development and for advanced planning and engineering. Under FAAP, approximately \$1.2 billion were granted by FAA to airport sponsors for airport development purposes from 1947 through 1970. FAAP was superseded by the Airport Development Act of 1970, the Airport and Airway Improvement Act of 1982, and the Airport and Airway Safety and Capacity Expansion Act of 1987 which amended the Airport and Airway Improvement Act of 1982.

The FAA prescribes and administers rules and regulations concerning airmen competency, aircraft airworthiness, and air traffic control. It promotes safety through certification of airmen, aircraft, and flight and aircraft maintenance schools. It reviews the design, structure, and performance of new aircraft to insure the safety of the flying public.

Services provided by FAA toward the development of aviation and air commerce include:

- Dissemination of news and information on civil aviation generally.

- Publication of flight information data for pilots.

- Technical aviation assistance to other governments, operation of overseas civil aviation missions, and the aviation training of foreign nationals.

- Development of medical standards for airmen through aviation medical research.

- Research and development in the field of aeronautics and electronics.

- Other activities required to encourage and foster the worldwide development of civil aviation and air commerce.

Policies governing these programs are developed in the Washington headquarters of FAA, and are executed by field employees.

The FAA has nine regional offices strategically located throughout the United States as well as the FAA Technical Center at Atlantic City, New Jersey, and the Mike Monroney Aeronautical Center at Oklahoma City, Oklahoma.

TABLE 1.1

FAA BUDGET AUTHORITY FISCAL YEARS 1985 - 1989 (\$ In Millions)

Appropriation	1985	1986	1987	1988	1989
Total	5,355.8	4,869.3	4,946.1	6,147.0	6,589.7
Operations (General Fund)	1,589.4	2,237.4	2,302.8	2,322.6	2,974.2
Operations (Airport and Airway Trust Fund)	1,110.0	426.8	621.2	827.4	471.3
Headquarters Administration	0.0 ^a	60.3	35.1	35.5	0.0 ^c
Facilities and Equipment (Airport and Airway Trust Fund)	1,358.0	895.1	804.6	1,108.1	1,384.2
Grants-in-Aid for Airports (Airport and Airway Trust Fund) Contract Authority (Obligation Limitation)	987.0 (925.0)	973.3 (885.2)	1,017.2 (1,025.0)	1,688.0 (1,268.7)	1,600.0 ^a (1,400.0)
Research, Engineering and Development (Airport and Airway Trust Fund)	265.0	237.1	141.7	153.4	160.0
Metropolitan Washington Airports	46.4	39.3	23.5 ^b	0.0 ^b	0.0 ^b

^a Headquarters Administration included in the Operations appropriation in fiscal year 1985.^b Metropolitan Washington Airports transferred to Regional Authority, June 1987.^c Headquarters Administration included in the Operations appropriation in fiscal year 1989.^a Revised

TABLE 1.2

FAA CIVILIAN EMPLOYEES AT END OF FISCAL AND CALENDAR YEARS 1979 - 1988 (See Note Below)

Date	Full Time Permanent				
	FAA Total Paid	Washington Office	Washington Field ^a	Other Field	Total
9/79.....	56,435	2,124	888	51,432	54,444
12/79.....	56,394	2,144	922	51,498	54,564
9/80.....	55,361	2,060	918	50,560	53,538
12/80.....	55,340	2,069	942	50,500	53,511
9/81.....	42,590	1,951	185	39,123	41,259
12/81.....	44,640	1,940	190	40,378	42,508
9/82.....	46,511	1,868	173	42,929	44,970
12/82.....	46,897	1,866	168	43,415	45,449
9/83.....	46,922	1,906	155	45,317	45,317
12/83.....	46,993	1,911	144	43,266	45,321
9/84.....	47,216	1,943	116	43,733	45,792
12/84.....	47,178	1,959	130	43,810	45,899
9/85.....	47,138	2,012	132	43,651	45,795
12/85.....	47,245	2,033	136	43,660	45,829
9/86.....	46,682	2,022	140	43,477	45,639
12/86.....	46,809	2,050	144	43,438	45,632
9/87.....	47,897	2,142	152	44,204	46,498
12/87.....	47,907	2,156	157	44,148	46,461
9/88.....	49,002	2,267	159	45,119	47,545
12/88.....	49,210	2,315	158	45,237	47,710

^a Beginning with 1981 employees from National and Dulles Airports are reported under "Other Field". In 1987, these employees were transferred to the Regional Authority.

NOTE: FAA Total Paid includes full-time, part-time, and intermittent. Full-time includes permanent paid full-time employees who occupy permanent positions. Washington Office includes all paid Washington headquarters employees whose duty station is Washington, D.C. Washington Field includes all paid Washington, D.C. employees in other states, or foreign countries. Other Field includes all paid employees whose duty stations are in the regions or centers.

TABLE 1.3

NUMBER OF TOTAL PAID FAA EMPLOYEES AS OF DECEMBER 31, 1979 - 1988

Occupation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Air Traffic Control Specialists	27,783	27,190	17,418	20,906	21,271	21,759	22,114	22,036	22,651	23,520
Electronics Technicians	9,209	8,871	8,432	8,031	7,633	7,229	6,856	6,600	6,788	6,627
Aviation Safety Inspectors	2,016	2,038	1,942	1,835	1,805	1,945	1,897	2,204	2,350	2,499
Engineers	2,501	2,436	2,274	2,238	2,313	2,419	2,450	2,417	2,579	2,640
All Others	14,885	14,805	14,574	13,887	13,971	13,826	13,928	13,552	13,539	13,924
Total Employment	56,394	55,340	44,640	46,897	46,993	47,178	47,245	46,809	47,907	49,210

II. THE NATIONAL AIRSPACE SYSTEM

This chapter furnishes terminal and en route air traffic activity information for the National Airspace System for fiscal and calendar years. The data have been reported by the FAA-operated Airport Traffic Control Towers, Air Route Traffic Control Centers, and flight service facilities (Flight Service Stations, Automated Flight Service Stations and International Flight Service Stations). These reports are used as a guide in determining the need for larger or additional facilities, and possible changes in the number of personnel at existing facilities.

Terminal information includes airport operations, instrument operations, and instrument approaches. Airport operations are landings and takeoffs. They are reported by towers by aviation categories—air carrier, air taxi, general aviation, and military. Instrument operations are takeoffs, landings, and overflights of aircraft operating in accordance with an IFR flight plan. Instrument approaches are approaches made to an airport by an aircraft on an IFR flight plan under IFR weather conditions.

Data for Air Route Traffic Control Centers (ARTCCs) include departures, overflights, and aircraft handled.

Activities for Flight Service Stations, Automated Flight Service Stations and International Flight Service Stations include flight plans originated airport advisories, pilot briefs, and aircraft contacted.

More detailed data pertaining to activity of these facilities may be found in *FAA Air Traffic Activity*.

TABLE 2.1 *

U.S. AIR ROUTE AIRWAY MILEAGE: 1979 - 1988 (Contiguous 48 States)

December 31	Very High Frequency VOR/VORTAC		
	Low Altitude		Jet Routes
	Direct	Alternate	
1979.....	157,853	31,625	135,920
1980.....	159,008	31,409	137,503
1981.....	160,823	29,137	138,550
1982.....	167,637	20,067	138,438
1983.....	169,471	15,359	139,477
1984.....	171,873	12,188	141,199
1985.....	182,182	3,306	142,658
1986.....	184,229	905	146,869
1987.....	184,644	543	147,678
1988.....	185,166	543	149,057

* Mileage shown in nautical miles based on National Ocean Survey figures.

TABLE 2.2

FAA AIR ROUTE FACILITIES AND SERVICES: 1979 - 1988

December 31	VOR/ VORTAC	Nondirec- tional Radio Beacons	Air Route Traffic Control Centers	Airport Traffic Control Towers	Flight Service Stations	International Flight Service Stations	Instrument Landing Systems	Radar Equipment
1979	1,028	1,015	25	499	318	6	753	192
1980	1,037	1,055	25	502	317	6	796	192
1981	1,033	1,123	25	501	316	6	840	199
1982	1,029	1,143	25	492	316	6	884	197
1983	1,032	1,183	25	494	316	5	934	197
1984	1,035	1,211	25	497	310	5	955	197
1985	1,039	1,222	25	500	302	4	968	198
1986	1,043	1,239	25	686	293	3	977	312
1987	1,045	1,262	25	686	253	3	1,111	312
1988	1,043 ^a	1,287 ^b	24 ^c	692 ^d	220	3	1,130 ^e	311 ^f

^a Includes 73 nonfederal and 37 military.^b Includes 913 nonfederal and 67 military.^c Includes 3 combined center/radar approach control facilities (CERAP).^d Includes 64 nonfederal and 211 military.^e Includes 22 Landing Directional Aids (LDA), 129 nonfederal, 20 military, 180 partial, 7 Interim Microwave Landing Systems (ISMLS), and 36 Simplified Direction Finders (SDF).^f Includes FAA, military and non federal

FISCAL YEARS
(TABLES 2.3 - 2.10)

TABLE 2.3

AIR TRAFFIC ACTIVITY AT AIR ROUTE TRAFFIC CONTROL CENTERS, BY AVIATION CATEGORY FISCAL YEARS 1984 - 1988

	Year	Aircraft Handled									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
IFR Aircraft Handled ¹	1988	36,350,374	+2%	17,885,859	+5%	5,834,717	+10%	8,053,133	-1%	4,576,665	-14%
	1987	35,794,403	+5%	17,115,080	+7%	5,283,267	+5%	8,102,631	+1%	5,293,425	+4%
	1986	34,177,045	+4%	16,009,336	+9%	5,020,069	+5%	8,054,741	-3%	5,092,895	+3%
	1985	32,708,709	+4%	14,627,050	+4%	4,795,199	+10%	8,329,512	+1%	4,956,946	+2%
	1984	31,615,486	+8%	14,110,659	+6%	4,369,149	+18%	8,267,069	+6%	4,868,609	+7%
IFR Departures	1988	13,803,103	+	6,146,443	+2%	2,741,782	+12%	3,355,842	-1%	1,559,036	-17%
	1987	13,768,267	+4%	6,043,020	+6%	2,458,714	+5%	3,392,926	-	1,873,607	-5%
	1986	13,245,340	+4%	5,719,626	+9%	2,335,006	+5%	3,398,856	-4%	1,791,852	+2%
	1985	12,784,292	+4%	5,261,858	+5%	2,232,782	+9%	3,535,541	+1%	1,754,111	+2%
	1984	12,290,214	+9%	5,030,352	+8%	2,048,462	+17%	3,491,714	+6%	1,719,686	+8%
IFR Overs	1988	8,744,168	+6%	5,592,973	+11%	351,153	-4%	1,341,449	+2%	1,458,593	-6%
	1987	8,257,869	+7%	5,029,040	+10%	365,839	+5%	1,316,779	+5%	1,546,211	+2%
	1986	7,686,365	+8%	4,570,084	+11%	350,057	+6%	1,257,029	-	1,509,195	+1%
	1985	7,140,125	+2%	4,103,334	+1%	329,635	+21%	1,258,433	-2%	1,445,726	-1%
	1984	7,035,058	+3%	4,049,955	+2%	272,225	+34%	1,283,641	+4%	1,429,237	+3%

¹ Less than 0.5 percent.² The number of IFR Departures multiplied by two, plus the number of IFR Overs.

TABLE 2.4

AIR TRAFFIC ACTIVITY AT AIRPORT TRAFFIC CONTROL TOWERS, BY AVIATION CATEGORY FISCAL YEARS 1984 - 1988

	Year	Airport Operations									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Airport Operations	1988	61,299,017	+1%	12,752,997	-2%	8,255,279	+12%	37,503,249	-1%	2,787,492	+2%
	1987	60,976,559	+3%	13,062,061	+6%	7,347,057	+6%	37,830,524	+2%	2,736,917	+4%
	1986	58,956,464	+2%	12,300,371	+9%	6,915,478	-	37,100,657	-	2,639,958	+4%
	1985	57,937,465	+2%	11,281,308	+4%	6,916,241	+5%	37,191,215	+1%	2,548,701	+1%
	1984	56,958,937	+7%	10,879,575	+12%	6,607,453	+13%	37,021,894	+5%	2,450,015	-1%
Itinerant Operations	1988	44,521,425	+1%	12,752,997	-2%	8,255,279	+12%	22,096,026	+	1,417,123	+3%
	1987	43,869,898	+3%	13,062,061	+6%	7,347,057	+6%	22,078,782	+1%	1,381,998	+2%
	1986	42,515,777	+2%	12,300,371	+9%	6,915,478	-	21,542,188	-2%	1,357,740	+5%
	1985	41,864,894	+2%	11,281,308	+4%	6,916,241	+5%	22,373,051	+	1,294,314	+5%
	1984	41,071,969	+8%	10,879,575	+12%	6,607,453	+13%	22,348,163	+5%	1,236,778	+3%
Local Operations	1988	16,777,592	-2%	-	-	-	-	15,407,223	-2%	1,370,369	+1%
	1987	17,106,661	+4%	-	-	-	-	15,751,742	+4%	1,354,919	+6%
	1986	16,440,687	+2%	-	-	-	-	15,158,469	+2%	1,282,218	+2%
	1985	16,072,571	+1%	-	-	-	-	14,818,184	+1%	1,254,387	+4%
	1984	15,886,968	+4%	-	-	-	-	14,673,731	+5%	1,213,237	-4%

¹ Less than 0.5 percent.

TABLE 2.5

AIR TRAFFIC ACTIVITY AT FAA FACILITIES, BY AVIATION CATEGORY FISCAL YEARS 1984 - 1988

	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Instrument Operations	1988	44,544,281	+3%	13,422,772	-2%	8,449,004	+15%	18,269,083	+2%	4,403,422	-1%
	1987	43,407,628	+7%	13,730,330	+8%	7,320,676	+10%	17,914,358	+7%	4,442,264	+3%
	1986	40,466,365	+5%	12,752,823	+9%	6,626,572	+4%	16,787,756	+2%	4,299,214	+4%
	1985	38,702,396	+4%	11,751,323	+4%	6,390,297	+7%	16,428,676	+3%	4,132,100	+4%
Total Instrument Approaches	1988	37,327,046	+10%	11,333,489	+12%	5,997,079	+12%	16,023,211	+9%	3,573,267	+4%
	1987	1,914,612	-17%	692,218	-20%	447,950	-7%	662,965	-19%	111,479	-17%
	1986	2,306,401	-10%	870,189	-14%	483,441	-4%	918,163	-12%	134,608	-3%
	1985	2,570,631	+17%	1,003,540	+31%	501,474	+8%	927,007	+11%	138,610	+9%
Total Instrument Approaches at Control Facilities ¹	1988	2,196,181	-3%	767,729	-1%	463,204	-4%	837,663	-6%	127,585	-1%
	1987	2,273,516	+12%	773,385	+15%	483,389	+15%	887,424	+8%	129,318	+6%
	1986	1,723,434	-19%	678,902	-20%	378,679	-11%	567,154	-22%	98,699	-20%
	1985	2,123,347	-11%	853,670	-14%	423,214	-4%	723,447	-13%	123,016	-3%
Total Instrument Approaches at Control Facilities ¹	1988	2,384,088	+17%	987,835	+31%	440,339	+8%	829,273	+11%	126,641	+10%
	1987	2,029,327	-3%	754,812	-1%	409,177	-6%	750,387	-5%	114,951	+6%
	1986	2,091,167	+11%	759,595	+16%	433,144	+14%	790,230	+7%	108,198	-3%

¹ Less than 0.5 percent.² Excludes instrument approaches provided by Air Route Traffic Control Centers.

TABLE 2.6

AIR TRAFFIC ACTIVITY AT FLIGHT SERVICE FACILITIES FISCAL YEARS 1984 - 1988

	Year	Flight Services ¹		Flight Plans Originated				Airport Advisories		Pilot Briefs	
		Total	Annual Change	Total	Annual Change	IFR-DVFR	Annual Change	VFR	Annual Change	Total	Annual Change
Flight Service Stations	1988	44,849,559	-6%	7,551,660	-1%	5,837,514	-2%	1,714,146	+1%	1,953,323	-19%
	1987	47,747,493	-3%	7,643,574	+2%	5,943,542	+1%	1,700,032	+5%	2,414,289	-7%
	1986	48,982,535	-7%	7,517,796	-6%	5,896,633	-6%	1,621,163	-5%	2,595,833	-8%
	1985	52,868,048	-4%	7,985,889	-2%	6,287,882	-2%	1,698,007	-4%	2,826,294	-5%
International Flight Service Stations	1988	54,779,576	-4%	8,176,075	+	6,405,209	+2%	1,770,866	-4%	2,963,968	-5%
	1987	1,468,138	+2%	318,729	+1%	162,314	+7%	156,415	-5%	5,707	-29%
	1986	1,438,354	-8%	315,299	-1%	151,314	+6%	163,985	-6%	8,039	-11%
	1985	1,562,753	-25%	317,233	-17%	142,558	-21%	174,675	-13%	9,062	-3%
Total	1988	2,097,001	-1%	380,168	+3%	179,428	-4%	200,740	+9%	9,339	-41%
	1987	2,121,709	-3%	370,513	-2%	185,954	+3%	184,559	-7%	15,883	+31%
	1986	2,121,709	-3%	370,513	-2%	185,954	+3%	184,559	-7%	15,883	+31%
	1985	2,121,709	-3%	370,513	-2%	185,954	+3%	184,559	-7%	15,883	+31%

¹ Less than 0.5 percent.² The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted (see Table 2.7). No credit is allowed for airport advisories.

TABLE 2.7

AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES, BY AVIATION CATEGORY FISCAL YEARS 1984 - 1988

	Year	Aircraft Contacted									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Flight Service Stations	1988	6,428,781	-8%	284,210	-20%	911,119	-4%	4,811,707	-8%	421,745	-6%
	1987	6,959,195	-3%	354,388	-5%	948,407	-5%	5,208,721	-3%	447,679	+4%
	1986	7,184,075	-7%	372,223	-4%	998,498	-9%	5,382,619	-8%	430,735	+1%
	1985	7,738,536	-5%	386,479	-7%	1,101,020	+	5,826,387	-6%	424,172	+1%
	1984	8,143,518	-5%	415,984	+5%	1,097,332	+1%	6,208,177	-6%	422,025	-1%
IFR-DVFR	1988	1,872,454	-8%	275,321	-17%	422,651	-	1,020,546	-10%	153,936	-3%
	1987	2,042,270	-2%	331,368	-4%	423,643	-2%	1,129,239	-3%	158,020	+9%
	1986	2,087,519	-6%	345,735	-1%	432,683	-6%	1,163,883	-7%	145,218	-3%
	1985	2,211,819	-3%	349,104	-3%	460,369	+	1,253,174	-5%	145,172	+3%
	1984	2,280,781	+1%	358,758	+12%	459,039	+5%	1,317,446	-2%	145,538	+4%
VFR	1988	4,556,327	-7%	8,889	-61%	488,468	-7%	3,791,161	-7%	267,809	-8%
	1987	4,916,925	-4%	23,020	-13%	524,764	-7%	4,079,482	-3%	289,659	+1%
	1986	5,096,556	-8%	26,488	-29%	565,815	-12%	4,218,736	-8%	285,517	+4%
	1985	5,526,717	-6%	37,375	-35%	640,651	+	4,573,213	-6%	275,478	-
	1984	5,862,737	-7%	57,226	-23%	638,293	-1%	4,890,731	-7%	276,487	-3%
International Flight Service Stations	1988	293,058	-10%	12,861	+14%	77,175	-22%	196,503	-5%	6,519	-3%
	1987	325,116	-15%	11,251	+6%	99,531	-32%	207,605	-4%	6,729	+3%
	1986	380,257	-18%	10,649	+16%	147,159	-5%	215,941	-26%	6,508	-14%
	1985	461,801	-11%	9,142	-86%	154,434	+7%	290,684	-3%	7,541	-29%
	1984	519,979	-11%	66,430	-44%	144,390	-4%	298,528	+1%	10,631	-49%
IFR-DVFR	1988	39,838	+8%	12,837	+20%	5,541	+33%	18,901	-3%	2,559	-3%
	1987	36,995	-1%	10,712	+3%	4,171	+40%	19,461	-10%	2,651	+17%
	1986	37,221	-3%	10,415	+17%	2,979	-42%	21,562	-2%	2,265	-10%
	1985	38,490	-59%	8,927	-86%	5,121	+20%	21,935	+19%	2,507	-59%
	1984	94,745	-39%	65,998	-44%	4,255	+23%	18,394	-4%	6,098	-62%
VFR	1988	253,220	-12%	24	-96%	71,634	-25%	177,602	-6%	3,960	-3%
	1987	288,121	-16%	539	+30%	95,360	-34%	188,144	-3%	4,078	-4%
	1986	343,036	-19%	234	+9%	144,180	-3%	194,379	-28%	4,243	-16%
	1985	423,311	-1%	215	-50%	149,313	-7%	286,749	-4%	5,034	+11%
	1984	425,234	-1%	432	-34%	140,135	-5%	280,134	+1%	4,533	-5%

* Less than 0.5 percent.

TABLE 2.8

TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS, BY RANK ORDER OF TOTAL OPERATIONS AND BY AVIATION CATEGORY INCLUDING AIR CARRIER RANK FISCAL YEAR 1988

Tower	Total		Air Carrier		Air Taxi	General Aviation	Military
	Rank	Operations	Rank	Operations			
Chicago O'Hare Int'l	1	795,749	1	631,073	129,981	31,208	3,487
Atlanta International	2	782,686	2	562,698	191,203	27,449	1,336
Dallas Ft. Worth Reg'l	3	664,268	3	490,327	149,880	22,554	1,507
Los Angeles International	4	631,898	4	435,751	135,728	55,548	4,871
Santa Ana	5	528,165	57	61,987	21,132	440,703	4,343
Denver Stapleton Int'l	6	511,326	5	374,614	94,171	40,205	2,336
San Francisco	7	461,213	6	321,420	104,884	32,378	2,531
Van Nuys	8	459,659	270	19	610	455,130	3,900
Phoenix Sky Harbor Int'l	9	455,342	10	268,236	65,697	114,529	6,880
Boston Logan ..	10	445,173	14	246,423	146,793	51,683	274
Long Beach	11	435,290	101	18,007	6,682	407,567	3,034
St. Louis Int'l	12	429,370	7	285,710	87,098	43,364	11,198
Fort Worth Meacham	13	424,958	254	52	3,953	420,032	921
Philadelphia Int'l	14	415,604	20	195,506	161,685	57,199	1,214
Seattle Boeing	15	414,105	157	6,398	18,482	386,290	2,935
Charlotte Douglas	16	405,227	17	213,291	104,298	83,895	3,743
Oakland International	17	402,261	46	81,209	52,256	267,678	1,118
Pittsburgh Greater Int'l	18	386,945	11	256,627	97,706	25,937	6,675
Detroit Metro Wayne Co.	19	380,161	13	250,445	69,470	59,939	307
Minneapolis St. Paul Int'l	20	379,806	16	214,025	87,442	73,146	5,193
Pontiac	21	379,544	240	167	7,783	370,622	972
Newark	22	376,822	8	282,488	67,775	25,971	588
Las Vegas McCarran	23	372,607	24	177,700	80,766	105,340	8,801
Denver/Centennial	24	371,799	—	0	3,795	361,391	6,613
Honolulu	25	367,141	23	187,445	57,366	86,418	35,912

NA Not Applicable.

NOTE: Total Operations rank was based on total air traffic activity at 398 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 319 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

TABLE 2.9

TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS, BY RANK ORDER OF AIR CARRIER OPERATIONS AND BY AVIATION CATEGORY INCLUDING TOTAL OPERATIONS RANK FISCAL YEAR 1988

Tower	Air Carrier		Air Taxi	General Aviation	Military	Total	
	Rank	Operations				Rank	Operations
Chicago O'Hare Int'l.....	1	631,073	129,981	31,208	3,487	1	795,749
Atlanta International.....	2	562,698	191,203	27,449	1,336	2	782,686
Dallas Ft. Worth Reg'l.....	3	490,327	149,880	22,554	1,507	3	664,268
Los Angeles Int'l.....	4	435,751	135,728	55,548	4,871	4	631,898
Denver Stapleton Int'l.....	5	374,614	94,171	40,205	2,336	6	511,326
San Francisco.....	6	321,420	104,884	32,378	2,531	7	461,213
St. Louis Int'l.....	7	285,710	89,098	43,364	11,198	12	429,370
Newark.....	8	282,488	67,775	25,971	588	22	376,822
La Guardia.....	9	269,643	66,403	27,608	533	26	364,187
Phoenix Sky Harbor Int'l.....	10	268,236	65,697	114,529	6,880	9	455,342
Pittsburgh Greater Int'l.....	11	256,627	97,706	25,937	6,675	18	386,945
Miami International.....	12	254,597	56,417	45,718	1,688	28	358,420
Detroit Metro Wayne County.....	13	250,445	69,470	59,939	307	19	380,161
Boston Logan.....	14	246,423	146,793	51,683	274	10	445,173
John F. Kennedy Int'l.....	15	221,615	81,318	25,012	681	30	328,626
Minneapolis St. Paul Int'l.....	16	214,025	87,442	73,146	5,193	20	379,806
Charlotte Douglas.....	17	213,291	104,298	83,895	3,743	16	405,227
Memphis International.....	18	211,732	63,570	76,906	6,590	27	358,798
Houston Intercontinental.....	19	205,969	40,103	50,098	1,108	34	297,278
Philadelphia Int'l.....	20	195,506	161,685	57,199	1,214	14	415,604
Washington National.....	21	90,609	60,213	76,494	321	31	327,637
Orlando Int'l Airport.....	22	188,024	60,396	37,843	4,072	37	290,335
Honolulu.....	23	187,445	57,366	86,418	35,912	25	367,141
Las Vegas McCarran.....	24	177,700	80,766	105,340	8,801	23	372,607
Seattle Tacoma.....	25	175,746	119,656	15,614	467	32	311,483

NOTE: Total Operations rank was based on total air traffic activity at 398 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 319 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

TABLE 2.10

TOTAL FAA AIR TRAFFIC ACTIVITY BY REGION AND STATE, AND BY FAA-OPERATED TOWERS, AIR ROUTE TRAFFIC CONTROL CENTERS, FLIGHT SERVICE STATIONS, AND INTERNATIONAL FLIGHT SERVICE STATIONS FISCAL YEAR 1988

FAA Region and State	Airport Operations (Towers)	Aircraft Handled (Centers)	Aircraft Contacted		Total Flight Services	
			Flight Service Stations	Int'l Flight Service Sta.	Flight Service Stations	Int'l Flight Service Sta.
TOTAL	61,299,017	36,350,374	6,428,781	293,058	44,849,559	1,468,138
Alaskan—Total	1,049,467	431,488	976,320	—	2,400,054	—
Central—Total	2,423,283	1,721,029	393,112	—	2,829,832	—
Iowa	445,839	—	52,025	—	561,795	—
Kansas	490,029	—	113,199	—	648,025	—
Missouri	1,184,373	1,721,029	136,574	—	1,174,640	—
Nebraska	303,042	—	91,314	—	445,372	—
Eastern—Total	8,250,588	4,081,872	509,126	—	6,131,440	—
Delaware	211,498	—	—	—	—	—
District of Columbia	327,637	2,249,564	71,589	—	969,507	—
Maryland	532,354	—	49,664	—	119,428	—
New Jersey	1,309,604	—	56,766	—	1,001,858	—
New York	2,509,854	1,832,308	82,734	—	1,379,176	—
Pennsylvania	1,955,185	—	147,904	—	1,722,706	—
Virginia	1,025,365	—	15,588	—	266,922	—
West Virginia	379,091	—	84,881	—	671,843	—
Great Lakes—Total	9,716,706	8,315,154	837,275	—	7,478,071	—
Illinois	2,840,663	2,387,093	112,418	—	1,188,678	—
Indiana	873,372	1,945,839	81,724	—	1,107,978	—
Michigan	2,041,369	—	104,938	—	1,057,710	—
Minnesota	993,530	1,624,356	142,495	—	823,373	—
North Dakota	418,294	—	55,312	—	379,964	—
Ohio	1,529,783	2,357,866	123,235	—	1,826,295	—
South Dakota	156,698	—	98,823	—	355,783	—
Wisconsin	862,997	—	118,330	—	738,290	—
New England—Total	3,650,036	1,643,366	149,743	—	2,051,343	—
Connecticut	896,298	—	74,548	—	1,268,540	—
Maine	254,385	—	35,204	—	400,576	—
Massachusetts	1,915,031	1,643,366	—	—	—	—
New Hampshire	233,480	—	6,204	—	44,142	—
Rhode Island	202,946	—	—	—	—	—
Vermont	147,896	—	33,787	—	338,085	—
Northwest Mountain—Total	5,243,992	3,850,228	886,338	—	3,932,406	—
Colorado	1,403,552	1,373,742	148,559	—	810,201	—
Idaho	342,205	—	54,492	—	257,754	—
Montana	316,037	—	169,805	—	512,615	—
Oregon	873,477	—	112,021	—	585,543	—
Utah	382,780	1,119,954	68,186	—	332,324	—
Washington	1,802,877	1,356,532	231,569	—	1,101,309	—
Wyoming	123,064	—	103,706	—	332,660	—

TABLE 2.10—Continued

TOTAL FAA AIR TRAFFIC ACTIVITY BY REGION AND STATE, AND BY FAA-OPERATED TOWERS, AIR ROUTE TRAFFIC CONTROL CENTERS, FLIGHT SERVICE STATIONS, AND INTERNATIONAL FLIGHT SERVICE STATIONS FISCAL YEAR 1975

FAA Region and State	Airport Operations (Towers)	Aircraft Handled (Centers)	Aircraft Contacted		Total Flight Services	
			Flight Service Stations	Int'l Flight Service Sta.	Flight Service Stations	Int'l Flight Service Sta.
Southern—Total	11,220,092	7,498,447	1,033,151	293,058	9,353,425	1,468,138
Alabama	641,002	—	119,196	—	956,194	—
Florida	4,879,971	3,312,667	283,094	219,458	7,696,436	1,239,754
Georgia	1,541,537	2,390,221	110,304	—	1,356,586	—
Kentucky	747,247	—	86,530	—	603,712	—
Mississippi	315,724	—	55,675	—	406,947	—
North Carolina	1,195,123	—	165,676	—	1,340,798	—
Puerto Rico	271,599	—	—	73,600	—	228,384
South Carolina	459,188	—	80,299	—	859,855	—
Tennessee	1,003,597	1,795,559	132,377	—	1,132,897	—
Virgin Islands	165,104	—	—	—	—	—
Southwest—Total	6,644,989	4,887,836	701,982	—	5,474,614	—
Arkansas	334,904	—	89,020	—	559,660	—
Louisiana	1,049,533	—	43,479	—	602,847	—
New Mexico	389,048	1,431,175	140,396	—	550,796	—
Oklahoma	776,781	—	102,800	—	757,658	—
Texas	4,094,723	3,456,661	326,287	—	3,003,653	—
Westestern-Pacific—Total	13,099,864	3,920,954	939,734	—	5,198,374	—
American Samoa	11,314	—	—	—	—	—
Arizona	1,804,241	—	131,376	—	652,100	—
California	9,746,998	3,478,780	661,647	—	3,842,079	—
Guam	—	53,688	—	—	—	—
Hawaii	854,304	388,486	66,991	—	306,187	—
Nevada	661,698	—	79,720	—	398,008	—
Wake Island	21,309	—	—	—	—	—

CALENDAR YEARS
(TABLES 2.11 - 2.18)

TABLE 2.11

AIR TRAFFIC ACTIVITY AT AIR ROUTE TRAFFIC CONTROL CENTERS, BY AVIATION CATEGORY CALENDAR YEARS 1984 - 1988

	Year	Aircraft Handled									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
IFR Aircraft Handled ¹	1988	36,383,294	+ 1%	17,869,355	+ 2%	5,662,629	+ 5%	8,066,715	- *	4,784,595	- 8%
	1987	36,112,129	+ 5%	17,452,192	+ 8%	5,380,048	+ 5%	8,096,582	+ 1%	5,183,307	+ 1%
	1986	34,490,514	+ 4%	16,223,428	+ 9%	5,132,155	+ 6%	8,003,192	- 3%	5,131,739	+ 3%
	1985	33,019,705	+ 3%	14,924,724	+ 4%	4,844,414	+ 7%	8,244,445	- 1%	5,006,122	+ 2%
	1984	32,063,058	+ 7%	14,352,635	+ 7%	4,497,182	+ 16%	8,322,338	+ 4%	4,890,903	+ 6%
IFR Departures	1988	13,788,054	- 1%	6,126,722	- *	2,671,994	+ 6%	3,358,945	- 1%	1,630,393	11%
	1987	13,866,150	+ 4%	6,139,083	+ 6%	2,516,471	+ 6%	3,384,539	- *	1,826,057	+ 1%
	1986	13,338,657	+ 4%	5,782,325	+ 8%	2,380,794	+ 6%	3,370,374	- 3%	1,805,164	+ 2%
	1985	12,875,279	+ 3%	5,356,781	+ 4%	2,255,695	+ 7%	3,492,284	- 1%	1,770,519	+ 2%
	1984	12,493,511	+ 8%	5,137,502	+ 9%	2,102,711	+ 15%	3,524,746	+ 5%	1,728,552	+ 7%
IFR Overs	1988	8,807,186	+ 5%	5,615,911	+ 9%	318,641	- 8%	1,348,825	+ 2%	1,523,809	- *
	1987	8,379,829	+ 7%	5,174,026	+ 11 ^c	347,106	- 6%	1,327,504	+ 5%	1,531,193	+ 1%
	1986	7,813,200	+ 7%	4,658,778	+ 11 ^c	370,567	+ 11%	1,262,444	- *	1,521,411	+ 4%
	1985	7,269,147	+ 3%	4,211,162	+ 3%	333,024	+ 12%	1,259,877	- 1%	1,465,084	+ 2%
	1984	7,076,036	+ 3%	4,077,631	+ 2%	291,760	+ 34%	1,272,846	+ 1%	1,433,799	+ 3%

* Less than 0.5 percent.

¹ The number of IFR Departures multiplied by two, plus the number of IFR Overs

TABLE 2.12

AIR TRAFFIC ACTIVITY AT AIRPORT TRAFFIC CONTROL TOWERS, BY AVIATION CATEGORY CALENDAR YEARS 1984 - 1988

	Year	Airport Operations									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Airport Operations	1988	61,537,927	+1%	12,741,239	-3%	8,315,411	+10%	37,669,713	+*	2,811,564	+1%
	1987	61,004,284	+2%	13,092,751	+5%	7,553,620	+9%	37,575,141	-	2,782,772	+5%
	1986	59,754,343	+3%	12,523,570	+9%	6,945,108	-	37,637,377	+2%	2,648,288	+3%
	1985	58,021,521	+1%	11,450,621	+3%	6,949,436	+3%	37,044,465	-1%	2,576,999	+4%
	1984	57,755,928	+7%	11,110,294	+12%	6,735,875	+11%	37,437,851	+6%	2,471,908	+1%
Itinerant Operations	1988	44,659,108	+1%	12,741,239	-3%	8,315,411	+10%	22,188,943	+1%	1,413,515	+1%
	1987	44,039,814	+3%	13,092,751	+5%	7,553,620	+9%	21,993,252	-*	1,400,191	+4%
	1986	42,919,234	+2%	12,523,570	+9%	6,945,108	-	22,098,066	-1%	1,352,490	+2%
	1985	42,000,109	+1%	11,450,621	+3%	6,949,436	+3%	22,278,498	-1%	1,321,554	+5%
	1984	41,684,589	+8%	11,110,294	+12%	6,735,875	+11%	22,583,123	+6%	1,255,297	+4%
Local Operations	1988	16,878,819	-1%	-	-	-	-	15,480,770	-1%	1,398,049	+1%
	1987	16,964,470	+1%	-	-	-	-	15,581,889	+*	1,382,581	+7%
	1986	16,835,109	+5%	-	-	-	-	15,539,311	+5%	1,295,798	+3%
	1985	16,021,412	-	-	-	-	-	14,765,967	-1%	1,255,445	+3%
	1984	16,071,339	+5%	-	-	-	-	14,854,728	+5%	1,216,611	-3%

* Less than 0.5 percent.

TABLE 2.13

AIR TRAFFIC ACTIVITY AT FAA FACILITIES, BY AVIATION CATEGORY CALENDAR YEARS 1984 - 1988

	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Instrument Operations	1988	44,858,714	+2%	13,477,165	-2%	8,540,039	+13%	18,402,606	+2%	4,438,904	-
	1987	43,813,578	+6%	13,791,619	+6%	7,582,028	+12%	17,998,854	+5%	4,441,077	+2%
	1986	41,293,048	+6%	13,021,064	+9%	6,766,667	+5%	17,156,395	+1%	4,348,922	+4%
	1985	38,804,981	+2%	11,895,855	+3%	6,444,136	+2%	16,284,634	-	4,180,356	+4%
Total Instrument Approaches	1988	37,987,665	+9%	11,562,870	+12%	6,108,342	+10%	16,315,315	+9%	4,001,138	+5%
	1987	1,830,121	-12%	641,592	-20%	424,490	-8%	651,689	-8%	112,350	-3%
	1986	2,087,672	-17%	803,771	-17%	459,405	-7%	708,701	-22%	115,795	-21%
	1985	2,518,330	+9%	962,993	+15%	494,075	+3%	914,107	+5%	147,205	+15%
Total Instrument Approaches at Control Facilities ¹	1988	2,299,572	+4%	822,497	+6%	480,898	+2%	870,545	+2%	125,632	+1%
	1987	2,219,561	+11%	770,761	+7%	473,332	+3%	851,238	-3%	124,230	-6%
	1986	1,644,854	-14%	629,719	-20%	358,630	-9%	557,759	-9%	98,746	-6%
	1985	1,904,605	-18%	788,015	-17%	395,786	-9%	616,231	-25%	104,573	-22%
Total Instrument Approaches at Facilities ¹	1988	2,330,153	+9%	945,599	+14%	433,426	+2%	816,590	+4%	134,538	+16%
	1987	2,128,936	+3%	810,009	+7%	424,261	+1%	781,110	+2%	113,556	+1%
	1986	2,059,527	+2%	757,378	+7%	422,336	+2%	767,273	-3%	112,540	-

^{*} Less than 0.5 percent¹ Excludes instrument approaches provided by Air Route Traffic Control Centers

TABLE 2.14

AIR TRAFFIC ACTIVITY AT FLIGHT SERVICE FACILITIES CALENDAR YEARS 1984 - 1988

	Year	Flight Services ¹		Flight Plans Originated		Airport Advisories		Pilot Briefs	
		Total	Annual Change	Total	Annual Change	IFR-DVFR	Annual Change	Total	Annual Change
Flight Service Stations	1988	46,019,119	-1%	7,533,950	-1%	5,822,918	-1%	1,711,032	-19%
	1987	46,661,663	-4%	7,601,465	+1%	5,878,781	+1%	1,722,684	-11%
	1986	48,727,382	-6%	7,503,913	-5%	5,867,455	-5%	1,636,458	-7%
	1985	51,819,747	-5%	7,874,976	-4%	6,191,977	-4%	1,682,999	-6%
International Flight Service Stations	1988	54,586,516	-3%	8,178,597	+1%	6,420,450	+1%	1,758,147	-3%
	1987	1,474,570	+3%	317,637	+1%	161,907	+6%	155,730	-21%
	1986	1,434,844	-6%	314,349	-1%	152,121	+5%	162,228	-23%
	1985	1,534,091	-26%	317,939	-16%	145,311	-18%	172,628	-3%
Total	1988	2,080,472	-1%	377,347	+2%	178,134	-4%	199,213	-65%
	1987	2,092,488	-4%	371,116	-2%	185,407	+2%	185,709	+7%
	1986	11,572,284	-6%	2,305,151	+5%	2,584,214	-3%	2,774,929	+51%
	1985	13,281,761	-7%	2,584,214	-3%	2,774,929	-5%	2,940,906	-3%

^{*} Less than 0.5 percent¹ The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted (see Table 2.15). No credit is allowed for airport advisories.

TABLE 2.15

AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES, BY AVIATION CATEGORY CALENDAR YEARS 1984 - 1988

	Year	Aircraft Contacted									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Flight Service Stations	1988	6,332,081	-7%	265,482	-22%	890,071	-4%	4,763,050	-6%	413,478	-9%
	1987	6,815,417	-5%	342,138	-6%	930,059	-5%	5,087,614	-6%	455,606	+7%
	1986	7,156,034	-6%	364,183	-6%	977,917	-10%	5,388,852	-6%	425,082	-2%
	1985	7,608,999	-6%	385,568	-8%	1,087,881	-1%	5,703,345	-8%	432,205	+2%
	1984	8,075,766	-3%	416,072	-30%	1,095,251	-	6,141,629	-5%	422,814	+
IFR-DVFR	1988	1,838,167	-6%	257,706	-20%	415,728	-1%	1,010,437	-5%	154,296	-3%
	1987	1,964,873	-5%	321,056	-5%	417,846	-3%	1,067,407	-8%	158,564	+8%
	1986	2,073,740	-5%	339,552	-3%	429,062	-5%	1,158,869	-6%	146,257	-3%
	1985	2,180,265	-4%	351,775	-3%	450,979	-2%	1,227,469	-6%	150,042	+3%
	1984	2,266,652	-	361,508	+10%	458,246	+1%	1,301,754	-5%	145,144	+2%
VFR	1988	4,493,914	-7%	7,776	-63%	474,343	-7%	3,752,613	-7%	259,182	-13%
	1987	4,850,544	-5%	21,082	-14%	512,213	-7%	4,020,207	-5%	297,042	+7%
	1986	5,082,294	-6%	24,631	-27%	548,855	-14%	4,229,983	-5%	278,825	-1%
	1985	5,428,734	-7%	33,793	-62%	636,902	-	4,475,876	-8%	282,163	+1%
	1984	5,809,114	-4%	54,564	-21%	637,005	-1%	4,839,875	-5%	277,670	-
International Flight Service Stations	1988	295,520	-6%	13,208	+16%	75,163	-19%	200,302	-2%	6,847	+2%
	1987	314,694	-15%	11,394	+5%	92,576	-33%	204,023	-5%	6,701	+3%
	1986	371,351	-19%	10,841	+11%	138,166	-10%	215,833	-24%	6,511	-14%
	1985	457,172	-9%	9,763	-336%	154,021	+4%	285,780	-5%	7,608	+3%
	1984	496,624	-14%	42,522	-63%	147,836	+2%	298,905	+2%	7,361	+66%
IFR-DVFR	1988	40,996	+11%	13,188	+19%	5,604	+26%	19,582	+5%	2,622	+2%
	1987	36,779	-1%	11,077	+6%	4,447	+45%	18,672	-13%	2,583	+7%
	1986	37,301	-5%	10,405	+8%	3,066	-37%	21,425	-5%	2,405	-1%
	1985	39,377	-72%	9,595	-339%	4,850	+5%	22,511	+19%	2,421	-12%
	1984	67,743	-60%	42,127	-63%	4,622	-33%	18,287	-4%	2,707	+84%
VFR	1988	254,524	-8%	20	-94%	69,559	-21%	180,720	-2%	4,225	+3%
	1987	277,915	-17%	317	-27%	88,129	-35%	185,351	-5%	4,118	+
	1986	334,050	-20%	436	+160%	135,100	-9%	194,408	-26%	4,106	-21%
	1985	417,795	-3%	168	-135%	149,171	+4%	263,269	-7%	5,187	+10%
	1984	428,881	+2%	395	-43%	143,214	-2%	280,618	-2%	4,654	+

* Less than 0.5 percent

TABLE 2.16

TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS, BY RANK ORDER OF TOTAL OPERATIONS AND BY AVIATION CATEGORY INCLUDING AIR CARRIER RANK CALENDAR YEAR 1988

Tower	Rank	Total Operations	Rank	Air Carrier	Air Taxi	General Aviation	Military
Chicago O'Hare Int'l.....	1	803,028	1	631,447	136,664	31,267	3,650
Atlanta International.....	2	778,785	2	561,435	189,581	26,575	1,194
Dallas Ft. Worth Regional.....	3	674,850	3	495,707	155,758	22,077	1,308
Los Angeles International.....	4	623,519	4	430,394	135,508	52,903	4,714
Santa Ana.....	5	533,484	56	62,710	21,376	444,599	4,799
Denver Stapleton Int'l.....	6	501,950	5	365,199	94,379	40,673	1,699
Van Nuys.....	7	468,779	267	20	617	464,512	3,630
Phoenix Sky Harbor Int'l.....	8	464,169	9	271,079	65,563	119,618	7,909
San Francisco.....	9	455,418	6	317,633	100,895	34,383	2,507
Fort Worth Meacham.....	10	443,494	250	51	2,847	440,006	590
Long Beach.....	11	439,599	102	17,757	7,735	410,970	3,137
Boston Logan.....	12	438,243	14	246,806	141,279	49,884	274
St. Louis International.....	13	432,520	7	287,878	91,985	42,191	10,466
Philadelphia Int'l.....	14	415,950	20	196,729	159,998	58,091	1,132
Seattle Boeing.....	15	411,722	150	7,261	19,514	382,205	2,742
Charlotte Douglas.....	16	411,445	16	217,425	107,327	82,933	3,760
Oakland International.....	17	400,338	48	77,383	54,046	267,913	996
Miami International.....	18	399,407	12	257,976	54,586	53,454	33,391
Pontiac.....	19	393,606	236	115	9,150	383,358	983
Pittsburgh Greater Int'l.....	20	389,749	11	258,491	98,647	25,753	3,858
Newark.....	21	380,081	8	285,182	68,490	25,823	586
Minneapolis St Paul Int'l.....	22	379,877	17	216,623	88,191	69,846	5,217
Honolulu.....	23	376,893	23	184,856	60,710	91,428	39,899
Detroit Metro Wayne.....	24	375,102	13	253,423	63,488	57,932	259
Denver/Centennial.....	25	371,484	—	0	4,029	359,351	8,104

NOTE: Total Operations rank was based on total air traffic activity at 399 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 319 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

TABLE 2.17

TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS, BY RANK ORDER OF AIR CARRIER OPERATIONS AND BY AVIATION CATEGORY INCLUDING TOTAL OPERATIONS RANK CALENDAR YEAR 1988

Tower	Rank	Air Carrier	Air Taxi	General Aviation	Military	Rank	Total Operations
Chicago O'Hare Int'l.....	1	631,447	136,664	31,267	3,650	1	803,028
Atlanta International.....	2	561,435	189,581	26,575	1,194	2	778,785
Dallas Ft. Worth Regional.....	3	495,707	155,758	22,077	1,308	3	674,850
Los Angeles Int'l.....	4	430,394	135,508	52,903	4,714	4	623,519
Denver Stapleton Int'l.....	5	365,199	94,379	40,673	1,699	6	501,950
San Francisco.....	6	317,633	100,895	34,383	2,507	9	455,418
St. Louis Int'l.....	7	287,878	91,985	42,191	10,466	13	432,520
Newark.....	8	285,182	68,490	25,823	586	21	380,081
Phoenix Sky Harbor Int'l.....	9	271,079	65,563	119,618	7,909	8	464,169
La Guardia.....	10	270,810	66,297	27,530	491	27	365,128
Pittsburgh Greater Int'l.....	11	258,491	98,647	25,753	6,858	20	389,749
Miami International.....	12	257,976	54,586	53,454	33,391	18	399,407
Detroit Metro Wayne Co.....	13	253,423	63,488	57,932	259	24	375,102
Boston Logan.....	14	246,806	141,279	49,884	274	12	438,243
John F. Kennedy Int'l.....	15	223,840	80,772	24,720	647	30	329,979
Charlotte Douglas.....	16	217,425	107,327	82,933	3,760	16	411,445
Minneapolis St. Paul Int'l.....	17	216,623	88,191	69,846	5,217	22	379,877
Memphis International.....	18	209,368	60,908	75,357	7,161	28	352,794
Houston Intercontinental.....	19	204,137	41,592	48,441	1,046	36	295,216
Philadelphia Int'l.....	20	196,729	159,998	58,091	1,132	14	415,950
Washington National.....	21	192,642	58,527	76,227	265	31	327,661
Orlando Int'l.....	22	191,873	60,409	38,415	3,900	37	294,597
Honolulu.....	23	184,856	60,710	91,428	39,899	23	376,893
Seattle Tacoma Int'l.....	24	176,782	124,250	14,509	463	32	316,004
Las Vegas McCarran Int'l.....	25	172,871	82,694	106,822	8,617	26	371,004

NOTE: Total Operations rank was based on total air traffic activity at 398 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 319 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

TABLE 2.18

TOTAL FAA AIR TRAFFIC ACTIVITY BY REGION AND STATE, AND BY FAA-OPERATED TOWERS, AIR ROUTE TRAFFIC CONTROL CENTERS, FLIGHT SERVICE STATIONS AND INTERNATIONAL FLIGHT SERVICE STATIONS CALENDAR YEAR 1988

FAA Region and State	Airport Operations (Towers)	Aircraft Handled (Centers)	Aircraft Contacted		Total Flight Services	
			Flight Service Stations	Int'l Flight Service Sta.	Flight Service Stations	Int'l Flight Service Sta.
TOTAL.....	61,537,927	36,383,294	6,332,081	295,520	44,544,549	1,474,570
Alaskan—Total.....	1,038,515	429,193	968,970	—	2,364,642	—
Central—Total.....	2,475,874	1,729,475	382,532	—	2,855,320	—
Iowa.....	448,925	—	53,013	—	554,295	—
Kansas.....	508,322	—	102,387	—	633,111	—
Missouri.....	1,214,230	1,729,475	141,511	—	1,233,925	—
Nebraska.....	304,397	—	85,621	—	433,980	—
Eastern—Total.....	8,273,329	4,089,913	507,952	—	5,989,894	—
Delaware.....	219,606	—	—	—	—	—
District of Columbia.....	327,661	2,218,251	73,583	—	992,729	—
Maryland.....	536,912	—	46,872	—	105,060	—
New Jersey.....	1,324,921	—	56,491	—	996,241	—
New York.....	2,513,709	1,871,662	83,072	—	1,297,888	—
Pennsylvania.....	1,960,681	—	148,359	—	1,704,959	—
Virginia.....	1,006,416	—	15,635	—	254,981	—
West Virginia.....	383,423	—	83,940	—	638,036	—
Great Lakes—Total.....	9,794,822	8,408,215	816,747	—	7,462,143	—
Illinois.....	2,878,515	2,408,924	107,613	—	1,137,677	—
Indiana.....	862,291	1,986,201	81,074	—	1,107,914	—
Michigan.....	2,041,742	—	101,146	—	1,088,078	—
Minnesota.....	1,004,131	1,626,298	143,079	—	815,983	—
North Dakota.....	432,339	—	53,128	—	416,262	—
Ohio.....	1,532,949	2,386,792	114,063	—	1,806,093	—
South Dakota.....	154,859	—	98,546	—	352,540	—
Wisconsin.....	887,996	—	118,098	—	737,596	—
New England—Total.....	3,625,443	1,618,166	152,269	—	2,072,895	—
Connecticut.....	895,504	—	77,275	—	1,286,489	—
Maine.....	249,272	—	34,657	—	400,383	—
Massachusetts.....	1,903,657	1,618,166	—	—	—	—
New Hampshire.....	227,525	—	6,221	—	40,365	—
Rhode Island.....	201,767	—	—	—	—	—
Vermont.....	147,718	—	34,116	—	345,658	—
Northwest Mountain—Total.....	5,214,252	3,920,832	866,527	—	3,936,555	—
Colorado.....	1,396,203	1,401,850	146,251	—	806,867	—
Idaho.....	339,015	—	54,429	—	259,747	—
Montana.....	322,106	—	166,876	—	508,204	—
Oregon.....	876,756	—	111,940	—	595,422	—
Utah.....	381,135	1,138,851	68,012	—	331,400	—
Washington.....	1,776,332	1,380,131	216,506	—	1,105,212	—
Wyoming.....	122,705	—	102,513	—	329,703	—

TABLE 2.18—Continued

TOTAL FAA AIR TRAFFIC ACTIVITY BY REGION AND STATE, AND BY FAA-OPERATED TOWERS, AIR ROUTE TRAFFIC CONTROL CENTERS, FLIGHT SERVICE STATIONS AND INTERNATIONAL FLIGHT SERVICE STATIONS CALENDAR YEAR 1988

FAA Region and State	Airport Operations (Towers)	Aircraft Handled (Centers)	Aircraft Contacted		Total Flight Services	
			Flight Service Stations	Int'l Flight Service Sta.	Flight Service Stations	Int'l Flight Service Sta.
Southern—Total	11,333,836	7,517,411	1,029,222	295,520	9,285,664	1,474,570
Alabama	635,362	—	117,185	—	940,959	—
Florida	4,997,559	3,329,385	284,872	225,606	2,643,684	1,256,160
Georgia	1,541,573	2,382,492	108,044	—	1,369,422	—
Kentucky	748,535	—	79,051	—	580,561	—
Mississippi	314,575	—	56,361	—	411,601	—
North Carolina	1,200,952	—	170,076	—	1,334,380	—
Puerto Rico	275,067	—	—	69,914	—	218,410
South Carolina	457,408	—	79,744	—	864,812	—
Tennessee	997,677	1,805,534	133,889	—	1,140,245	—
Virgin Islands	165,128	—	—	—	—	—
Southwest—Total	6,648,346	4,907,161	700,220	—	5,445,598	—
Arkansas	335,239	—	84,749	—	552,751	—
Louisiana	1,026,204	—	42,544	—	604,940	—
New Mexico	388,739	1,419,458	141,734	—	556,114	—
Oklahoma	783,441	—	104,652	—	752,784	—
Texas	4,114,723	3,487,703	326,541	—	2,979,009	—
Western-Pacific—Total	13,133,510	3,762,928	907,642	0	5,131,838	0
American Samoa	10,887	—	—	—	—	—
Arizona	1,830,498	—	133,381	—	653,781	—
California	9,830,498	3,440,694	635,409	—	3,790,947	—
Guam	—	54,968	—	—	—	—
Hawaii	874,297	267,266	61,249	—	293,603	—
Nevada	658,407	—	77,603	—	393,507	—
Wake Island	21,021	—	—	—	—	—

III. AIRPORTS

information about U.S. civil and joint-use landing facilities (including airports, heliports, stolports, and seaplane bases) was furnished by the FAA Office of Airport Standards. This information was obtained through physical inspection and mail solicitations, and was reported on the Airport Master Record (Form FAA 5010-1) and FAA Landing Facilities Information Request on Airports, Heliports, Stolports, and Seaplane Bases (Forms 5010-2 and 5010-5).

TABLE 3.1

TOTAL ALL FACILITIES ON RECORD WITH FAA 1979 - 1988

Year	All Facilities ¹			Airports Only			
	Total	With Runway	With Paved Runways	Total	With Runway	With Paved Runways	Airports of Entry [*]
1979.....	14,746	4,631	5,618	12,064	4,365	4,256	60
1980.....	15,161	4,738	5,833	12,240	4,443	4,306	69
1981.....	15,476	4,796	6,012	12,427	4,474	4,351	69
1982.....	15,831	4,842	6,224	12,596	4,494	4,391	63
1983.....	16,029	4,878	6,441	12,653	4,513	4,431	59
1984.....	16,079	4,889	6,531	12,648	4,536	4,450	59
1985.....	16,318	4,941	6,721	12,744	4,582	4,486	57
1986.....	16,582	4,954	6,948	12,785	4,601	4,499	76
1987.....	17,015	4,922	7,232	12,907	4,610	4,526	80
1988.....	17,327	4,890	7,429	12,950	4,630	4,554	80

^{*} Excludes landing rights airports.¹ All facilities include airports, heliports, stolports, and seaplane bases.

TABLE 3.2

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES, AND REPORTED ABANDONMENTS ON RECORD, BY
FAA REGION AND STATE DECEMBER 31, 1988

FAA Region and State	Total Aircraft Facilities	Airports	Heliports	Stolports	Seaplane Bases	Reported Abandon- ments During Year
Total	17,327	12,950	3,913	72	392	333
United States—Total ¹	17,259	12,901	3,898	72	388	333
Alaskan—Total	603	478	20	—	105	3
Central—Total	1,417	1,245	165	3	4	36
Iowa	274	232	41	1	—	5
Kansas	390	365	24	1	—	6
Missouri	431	345	81	1	4	16
Nebraska	322	303	19	—	—	9
Eastern—Total	2,192	1,384	739	7	62	52
Delaware	34	21	13	—	—	1
District of Columbia	16	2	14	—	—	—
Maryland	157	111	44	1	1	1
New Jersey	317	115	189	—	13	7
New York	506	362	120	—	24	17
Pennsylvania	756	490	252	3	11	16
Virginia	313	224	83	3	3	6
West Virginia	93	59	24	—	10	4
Great Lakes—Total	4,190	3,445	643	11	91	93
Illinois	924	708	210	—	6	32
Indiana	545	451	88	2	4	15
Michigan	434	367	61	2	4	6
Minnesota	475	386	23	1	65	9
North Dakota	486	478	7	—	1	8
Ohio	714	521	189	4	—	13
South Dakota	155	148	6	1	—	4
Wisconsin	457	386	59	1	11	6
New England—Total	595	332	204	6	53	10
Connecticut	128	56	65	2	5	3
Maine	146	102	11	—	33	2
Massachusetts	170	77	81	1	11	2
New Hampshire	67	40	23	1	3	2
Rhode Island	23	12	10	—	1	—
Vermont	61	45	14	2	—	1
Northwest Mountain—Total	1,812	1,362	420	10	20	24
Colorado	396	223	168	5	—	8
Idaho	209	181	24	—	4	1
Montana	212	191	19	1	1	3
Oregon	367	284	78	3	2	5
Utah	113	86	27	—	—	—
Washington	413	307	92	1	13	4
Wyoming	102	90	12	—	—	3

TABLE 3.2—Continued

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES, AND REPORTED ABANDONMENTS ON RECORD, BY
FAA REGION AND STATE DECEMBER 31, 1988

FAA Region and State	Total Aircraft Facilities	Airports	Heliports	Stolports	Seaplane Bases	Reported Abandon- ments During Year
Southern—Total	2,293	1,718	522	22	31	8
Alabama.....	201	157	43	—	1	2
Florida.....	669	439	204	5	21	1
Georgia.....	352	263	85	4	—	1
Kentucky.....	148	117	30	1	—	—
Mississippi.....	205	177	28	—	—	—
North Carolina.....	322	271	46	4	1	3
Puerto Rico.....	28	17	10	—	1	—
South Carolina.....	152	131	20	—	1	—
Tennessee.....	208	144	53	8	3	1
Virgin Islands.....	8	2	3	—	3	—
Southwest—Total	2,833	2,097	714	8	14	66
Arkansas.....	195	157	38	—	—	1
Louisiana.....	385	195	178	—	12	8
New Mexico.....	167	150	16	—	1	9
Oklahoma.....	399	315	83	—	1	9
Texas.....	1,687	1,280	399	8	—	39
Western-Pacific—Total	1,392	889	486	5	12	41
Arizona.....	272	177	94	1	—	13
California.....	907	548	344	3	12	21
Hawaii.....	54	35	19	—	—	3
Nevada.....	127	99	27	1	—	4
South Pacific ²	32	30	2	—	—	—

¹ Excludes Puerto Rico, Virgin Islands, and South Pacific.² American Samoa, Guam and Trust Territories.

TABLE 3.3

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES, ON RECORD, BY TYPE OF OWNERSHIP DECEMBER 31, 1988

FAA Region and State	Total Facilities	By Ownership		Paved Facilities		Unpaved Facilities	
		Private	Public	Lighted	Not Lighted	Lighted	Not Lighted
TOTAL.....	17,327	12,284	5,043	3,966	3,463	924	8,974
United States—Total ¹	17,259	12,264	4,995	3,942	3,444	923	8,950
Alaskan—Total.....	603	201	402	46	14	96	447
Central—Total.....	1,417	943	474	405	157	122	733
Iowa.....	274	152	122	99	34	48	93
Kansas.....	390	259	131	110	21	30	229
Missouri.....	431	305	126	118	79	25	209
Nebraska.....	322	227	95	78	23	19	202
Eastern—Total.....	2,192	1,853	339	411	502	114	1,165
Delaware.....	34	30	4	7	6	6	15
District of Columbia.....	16	9	7	4	9	—	3
Maryland.....	157	136	21	36	32	10	79
New Jersey.....	317	275	42	44	88	16	169
New York.....	506	421	85	98	106	35	267
Pennsylvania.....	756	679	77	115	171	34	436
Virginia.....	313	239	74	77	64	11	161
West Virginia.....	93	64	29	30	26	2	35
Great Lakes—Total.....	4,190	3,289	901	793	482	314	2,601
Illinois.....	924	812	112	112	137	54	621
Indiana.....	545	457	88	89	65	34	357
Michigan.....	434	300	134	127	49	47	211
Minnesota.....	475	327	148	100	23	39	313
North Dakota.....	486	387	99	67	9	32	378
Ohio.....	714	579	135	142	130	52	390
South Dakota.....	155	79	76	50	7	26	72
Wisconsin.....	457	348	109	106	62	30	259
New England—Total.....	595	457	138	130	168	10	287
Connecticut.....	128	112	16	27	51	2	48
Maine.....	146	101	45	30	17	2	97
Massachusetts.....	170	137	33	40	61	3	66
New Hampshire.....	67	52	15	17	23	2	25
Rhode Island.....	23	14	9	7	9	—	7
Vermont.....	61	41	20	9	7	1	44
Northwest Mountain—Total.....	1,812	1,132	680	438	350	83	941
Colorado.....	396	302	94	83	82	16	215
Idaho.....	209	80	129	42	34	1	132
Montana.....	212	91	121	67	25	17	103
Oregon.....	367	268	99	67	79	15	206
Utah.....	113	54	59	42	30	1	40
Washington.....	413	284	129	104	87	30	192
Wyoming.....	102	53	49	33	13	3	53

TABLE 3.3—Continued

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES, ON RECORD, BY TYPE OF OWNERSHIP DECEMBER 31, 1988

FAA Region and State	Total Facilities	By Ownership		Paved Facilities		Unpaved Facilities	
		Private	Public	Lighted	Not Lighted	Lighted	Not Lighted
Southern—Total.....	2,293	1,480	813	690	464	99	1,040
Alabama.....	201	102	99	90	43	8	60
Florida.....	669	514	155	123	159	31	356
Georgia.....	352	222	130	106	73	11	162
Kentucky.....	148	78	70	58	36	3	51
Mississippi.....	205	116	89	74	36	9	86
North Carolina.....	322	225	97	92	42	19	169
Puerto Rico.....	28	13	15	11	12	—	5
South Carolina.....	152	87	65	56	17	9	70
Tennessee.....	208	121	87	78	45	8	77
Virgin Islands.....	8	2	6	2	1	1	4
Southwest—Total.....	2,833	2,049	784	701	762	65	1,305
Arkansas.....	195	92	103	83	45	4	63
Louisiana.....	385	289	96	72	150	2	161
New Mexico.....	167	92	75	51	27	3	86
Oklahoma.....	399	238	161	119	86	14	180
Texas.....	1,687	1,338	349	376	454	42	815
Western-Pacific—Total.....	1,392	880	512	352	564	21	455
Arizona.....	272	182	90	65	88	3	116
California.....	907	593	314	236	410	14	247
Hawaii.....	54	36	18	12	30	1	11
Nevada.....	127	64	63	28	30	3	66
South Pacific ²	32	5	27	11	6	—	15

¹ Excludes Puerto Rico, Virgin Islands, and South Pacific.² American Samoa, Guam and Trust Territories.

TABLE 3.4

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES ON RECORD, BY LENGTH OF LONGEST RUNWAY, BY
FAA REGION AND STATE DECEMBER 31, 1988

FAA Region and State	Total	Under 3000	3000- 3999	4000- 4999	5000- 5999	6000- 6999	7000- 7999	8000- 8999	9000- 9999	10,000- Over
TOTAL	17,327	11,613	2,677	1,222	879	334	177	123	68	234
U.S.—Total ¹	17,259	11,581	2,668	1,218	874	327	172	122	66	231
Alaskan—Total	603	321	80	55	57	19	10	6	6	49
Central—Total	1,417	991	249	91	38	17	12	6	3	10
Iowa.....	274	182	46	32	5	5	1	2	1	—
Kansas.....	390	272	70	20	17	2	6	—	—	3
Missouri.....	431	317	72	16	9	6	3	1	1	6
Nebraska.....	322	220	61	23	7	4	2	3	1	1
Eastern—Total	2,192	1,768	193	68	77	29	15	8	10	24
Delaware.....	34	26	4	2	1	—	1	—	—	—
District of Columbia.....	16	14	—	—	—	1	—	—	—	1
Maryland.....	157	129	15	6	4	—	1	1	1	—
New Jersey.....	317	270	24	5	9	2	2	1	1	3
New York.....	505	381	55	14	19	10	4	2	4	17
Pennsylvania.....	756	659	44	17	17	7	5	1	3	3
Virginia.....	313	235	37	19	13	5	—	3	1	—
West Virginia.....	93	54	14	5	14	4	2	—	—	—
Great Lakes—Total	4,190	3,149	562	198	118	61	28	24	9	41
Illinois.....	924	806	61	23	15	9	3	4	1	2
Indiana.....	545	436	59	20	16	4	2	1	1	6
Michigan.....	434	291	72	27	20	11	5	1	1	6
Minnesota.....	475	280	85	32	27	17	9	5	—	20
N. Dakota.....	486	377	77	20	5	3	2	1	1	—
Ohio.....	714	554	87	39	18	6	2	3	3	2
S. Dakota.....	155	73	53	16	5	5	1	2	—	—
Wisconsin.....	457	332	68	21	12	6	4	7	2	5
New England—Total	595	431	53	32	38	10	9	3	2	17
Connecticut.....	128	110	5	6	4	—	1	—	1	1
Maine.....	146	77	19	13	13	5	3	2	—	14
Massachusetts.....	170	128	17	6	11	3	1	1	1	2
New Hampshire.....	67	49	6	3	6	2	1	—	—	—
Rhode Island.....	23	17	1	2	1	—	2	—	—	—
Vermont.....	61	50	5	2	3	—	1	—	—	—
Northwest Mountain—Total	1,812	1,075	311	180	120	47	23	14	16	26
Colorado.....	396	242	57	41	25	11	5	5	4	6
Idaho.....	209	107	47	34	11	2	1	1	3	3
Montana.....	212	81	74	31	15	1	—	2	4	4
Oregon.....	367	273	44	19	20	7	1	1	—	2
Utah.....	113	33	20	23	19	9	5	2	1	1
Washington.....	413	308	50	15	19	6	4	—	3	8
Wyoming.....	102	31	19	17	11	11	7	3	1	2

TABLE 3.4—Continued

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES ON RECORD, BY LENGTH OF LONGEST RUNWAY, BY
FAA REGION AND STATE DECEMBER 31, 1988

FAA Region and State	Total	Under 3000	3000- 3999	4000- 4999	5000- 5999	6000- 6999	7000- 7999	8000- 8999	9000- 9999	10,000- Over
Southern—Total	2,293	1,352	447	210	157	42	25	29	8	23
Alabama	201	105	36	31	12	6	2	5	2	2
Florida	669	421	114	52	36	12	11	11	1	11
Georgia	352	214	72	24	31	6	—	3	1	1
Kentucky	148	96	15	18	12	4	1	—	1	1
Mississippi	205	97	71	16	11	4	1	4	1	—
N. Carolina	322	200	63	31	14	4	5	1	—	4
Puerto Rico	28	17	4	2	2	1	—	—	—	2
S. Carolina	152	78	40	11	18	2	1	2	—	—
Tennessee	208	120	32	25	20	3	2	3	2	1
Virgin Islands	8	4	—	—	1	—	2	—	—	1
Southwest—Total	2,833	1,675	570	264	186	59	31	19	6	23
Arkansas	195	100	47	22	16	8	1	1	—	—
Louisiana	385	271	53	17	15	6	2	2	1	8
New Mexico	167	41	26	32	38	10	10	6	—	4
Oklahoma	399	261	81	27	17	5	3	1	1	3
Texas	1,687	1,002	353	166	100	30	15	9	4	8
Western-Pacific—Total	1,392	851	212	124	88	50	24	14	8	21
Arizona	272	145	38	43	22	11	6	5	—	2
California	907	608	149	57	38	22	8	6	4	15
Hawaii	54	41	4	2	2	3	—	—	1	1
Nevada	127	46	16	20	24	8	7	2	1	3
South Pacific ²	32	11	5	2	2	6	3	1	2	—

¹ Excludes Puerto Rico, Virgin Islands, and South Pacific.² American Samoa, Guam, and Trust Territories.

TABLE 3.5

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, AND SEAPLANE BASES ON RECORD, BY FAA REGION AND STATE AND OTHER AREAS DECEMBER 31, 1979 - 1988

FAA Region and State	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
TOTAL	14,746	15,161	15,476	15,831	16,029	16,079	16,318	16,582	17,015	17,327
United States—Total ¹	14,693	15,107	15,422	15,778	15,966	16,013	16,252	16,516	16,949	17,259
Alaskan—Total	734	731	689	666	615	609	610	614	593	603
Central—Total	1,325	1,340	1,373	1,379	1,425	1,430	1,437	1,421	1,437	1,417
Iowa.....	258	267	270	273	280	282	278	279	277	274
Kansas.....	374	377	376	377	380	384	385	382	389	390
Missouri.....	374	377	393	398	419	423	437	429	440	431
Nebraska.....	319	319	334	331	346	341	337	331	331	322
Eastern—Total	1,961	1,971	2,003	2,011	2,051	2,048	2,076	2,134	2,175	2,192
Delaware.....	35	36	37	35	37	36	36	37	35	34
District of Columbia.....	17	18	16	16	16	15	15	15	15	16
Maryland.....	144	150	145	147	147	149	151	155	154	157
New Jersey.....	266	265	271	280	291	294	295	286	317	317
New York.....	482	471	486	486	476	480	485	495	507	506
Pennsylvania.....	684	694	698	696	720	708	719	755	744	756
Virginia.....	256	260	260	262	270	274	282	299	308	313
West Virginia.....	76	77	90	89	94	92	93	92	95	93
Great Lakes—Total	3,439	3,641	3,813	4,023	4,031	4,027	4,060	4,071	4,135	4,190
Illinois.....	891	942	929	908	909	901	888	894	913	924
Indiana.....	325	347	365	490	498	495	523	518	530	545
Michigan.....	413	419	417	421	422	427	422	419	431	5434
Minnesota.....	468	491	493	498	492	480	479	472	477	475
North Dakota.....	221	229	365	442	451	457	484	499	487	486
Ohio.....	586	652	674	681	678	689	690	697	716	714
South Dakota.....	153	159	162	163	165	165	164	161	158	155
Wisconsin.....	382	402	408	420	416	413	410	411	423	457
New England—Total	536	542	534	521	513	509	515	536	568	595
Connecticut.....	106	108	105	105	105	104	108	112	120	128
Maine.....	160	162	158	147	146	143	144	144	144	146
Massachusetts.....	137	138	136	134	130	130	131	141	158	170
New Hampshire.....	52	52	52	54	54	54	53	58	62	67
Rhode Island.....	20	18	18	18	18	18	18	20	22	23
Vermont.....	61	64	65	63	60	60	61	61	62	61
Northwest Mountain—Total	1,542	1,593	1,586	1,619	1,636	1,626	1,662	1,685	1,737	1,812
Colorado.....	301	307	312	326	321	315	321	323	333	396
Idaho.....	194	197	196	197	196	198	202	205	207	209
Montana.....	177	185	190	191	197	194	200	203	210	212
Oregon.....	308	323	318	332	341	336	342	351	366	367
Utah.....	100	104	102	96	95	97	101	105	109	113
Washington.....	365	371	363	372	382	385	395	396	408	413
Wyoming.....	97	106	105	105	104	101	101	102	104	102

TABLE 3.5—Continued

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES ON RECORD, BY FAA REGION AND STATE AND OTHER AREAS DECEMBER 31, 1979 - 1988

FAA Region and State	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Southern—Total	1,765	1,851	1,895	1,919	1,947	1,961	2,002	2,099	2,165	2,293
Alabama	156	163	165	167	169	173	174	183	193	201
Florida	458	485	506	529	541	542	557	594	607	669
Georgia	283	288	293	295	302	301	304	325	334	352
Kentucky	112	128	125	127	127	129	134	139	139	148
Mississippi	165	171	180	180	181	180	188	190	194	205
North Carolina	271	285	286	280	284	288	292	307	316	322
Puerto Rico	32	32	33	32	31	31	31	30	27	28
South Carolina	127	132	137	135	137	139	139	137	146	152
Tennessee	155	160	164	168	169	171	176	186	201	208
Virgin Islands	6	7	6	6	6	7	7	8	8	8
Southwest—Total	2,227	2,263	2,333	2,425	2,506	2,541	2,624	2,661	2,818	2,833
Arkansas	167	156	157	157	160	156	163	167	173	195
Louisiana	291	289	292	303	311	317	353	357	381	385
New Mexico	145	149	156	159	160	167	169	168	174	167
Oklahoma	292	294	297	322	332	335	336	341	403	399
Texas	1,332	1,375	1,431	1,484	1,543	1,566	1,603	1,628	1,687	1,687
Western-Pacific—Total	1,217	1,229	1,250	1,268	1,305	1,328	1,332	1,361	1,387	1,392
Arizona	210	216	224	233	240	244	246	262	265	272
California	819	825	832	843	862	881	887	895	909	907
Hawaii	54	50	51	49	51	51	50	51	54	54
Nevada	119	123	128	128	126	124	121	125	128	127
South Pacific ²	11	15	15	15	26	28	28	28	31	32

¹ Excludes Puerto Rico, Virgin Islands, and South Pacific.² American Samoa, Guam, and Trust Territories.

TABLE 3 6

AIRPORT IMPROVEMENT PROGRAM. FISCAL YEAR 1988 (Excludes Amendment To Grants) (Thousands of Dollars)

FAA Region and State	Primary		Commercial		Reliever		General Aviation		System Planning	
	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Project
TOTAL.....	896,819.4	521	47,082.1	76	138,285.6	157	189,024.0	448	7,057.8	49
U. S.—Total ¹	881,778.0	504	40,298.9	74	138,285.6	157	189,024.0	448	7,057.8	49
Alaskan—Total.....	11,485.7	9	1,987.5	4	—	—	21,701.6	17	261.0	1
Central—Total.....	38,568.5	22	3,711.8	5	10,817.4	9	11,200.1	26	399.7	3
Iowa.....	6,768.0	7	—	—	—	—	2,533.3	7	190.8	1
Kansas.....	2,600.3	3	3,531.8	4	93.9	1	3,211.5	3	28.9	1
Missouri.....	26,279.2	8	180.0	1	10,723.5	8	3,285.9	10	180.0	1
Nebraska.....	2,921.0	4	—	—	—	—	2,169.4	6	—	—
Eastern—Total.....	138,359.2	78	5,125.5	13	23,733.8	36	27,368.2	68	1,521.3	12
Delaware.....	258.6	1	—	—	—	—	—	—	—	—
District of Columbia.....	—	—	—	—	—	—	—	—	148.5	1
Maryland.....	9,889.4	6	70.0	1	3,707.6	3	4,336.2	6	—	—
New Jersey.....	11,782.0	5	877.8	1	6,080.2	7	1,943.8	5	—	—
New York.....	52,143.0	26	2,009.2	7	4,123.5	9	7,948.7	23	587.5	7
Pennsylvania.....	44,359.0	23	2,033.5	2	7,624.0	11	5,798.1	4	611.3	3
Virginia.....	17,809.6	11	81.0	1	2,198.5	6	5,648.7	13	174.0	1
West Virginia.....	2,117.6	6	54.0	1	—	—	1,662.7	7	—	—
Great Lakes—Total.....	152,572.5	94	9,445.7	20	31,257.4	32	29,786.2	60	1,300.0	9
Illinois.....	41,673.1	18	3,093.1	5	15,101.1	9	5,412.9	10	209.0	1
Indiana.....	36,141.1	20	775.7	1	2,092.2	5	2,897.8	8	179.0	1
Michigan.....	13,706.9	13	1,509.6	4	7,146.8	6	6,732.9	11	209.0	1
Minnesota.....	10,992.3	5	480.0	1	996.9	1	3,102.2	2	120.0	1
N. Dakota.....	4,074.1	7	896.5	2	—	—	1,655.4	4	125.9	1
Ohio.....	32,283.7	14	250.0	1	4,043.0	7	5,283.5	12	190.0	2
S. Dakota.....	2,634.2	4	1,900.8	5	—	—	1,798.6	7	74.7	1
Wisconsin.....	11,067.1	13	540.0	1	1,877.4	4	2,902.9	6	192.4	1
New England—Total.....	22,302.9	21	3,185.4	2	3,997.0	7	3,488.5	11	—	—
Connecticut.....	722.1	1	—	—	1,151.1	1	—	—	—	—
Maine.....	1,779.3	4	3,015.0	1	—	—	960.8	2	—	—
Massachusetts.....	15,463.7	11	—	—	2,580.6	4	1,927.1	6	—	—
New Hampshire.....	1,295.1	2	—	—	265.3	2	470.7	2	—	—
Rhode Island.....	1,168.2	1	—	—	—	—	129.9	1	—	—
Vermont.....	1,874.5	2	170.4	1	—	—	—	—	—	—
Northwest Mountain—Total.....	54,885.2	54	3,106.7	12	9,842.9	13	23,113.8	64	829.1	11
Colorado.....	8,216.0	10	1,385.8	3	4,040.9	4	6,728.2	17	206.4	4
Idaho.....	1,398.1	4	276.0	1	585.0	1	2,013.1	3	—	—
Montana.....	4,870.3	7	—	—	—	—	3,299.3	11	—	—
Oregon.....	5,578.7	4	374.0	1	1,504.4	2	3,756.7	13	105.5	1
Utah.....	9,889.0	6	130.0	2	1,125.0	2	2,229.0	6	192.2	3
Washington.....	21,169.3	12	130.4	1	2,587.6	2,928.2	8	292.8	2	—
Wyoming.....	3,763.8	11	810.5	4	—	—	2,159.3	6	32.2	1

TABLE 3.6—Continued

AIRPORT IMPROVEMENT PROGRAM: FISCAL YEAR 1988 (Excludes Amendment to Grants) (Thousands of Dollars)

FAA Region and State	Primary		Commercial		Reliever		General Aviation		System Planning	
	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Project
Southern—Total.....	224,424.7	114	7,774.8	6	17,825.1	27	28,554.1	101	795.0	3
Alabama	8,911.7	12	—	—	109.7	1	2,691.4	6	360.0	1
Florida	76,429.9	37	1,298.4	2	4,579.5	11	4,768.3	23	360.0	1
Georgia	29,528.1	11	—	—	10,627.1	10	3,175.4	16	75.0	1
Kentucky	26,422.9	9	—	—	—	—	3,146.8	17	—	—
Mississippi	2,724.7	7	645.5	1	—	—	4,093.4	11	—	—
N. Carolina	17,324.5	12	573.5	1	1,428.2	2	3,303.2	7	—	—
Puerto Rico	4,552.3	6	5,032.4	1	—	—	—	—	—	—
S. Carolina	14,512.7	7	—	—	730.6	2	4,065.4	12	—	—
Tennessee	37,335.0	10	225.0	1	350.0	1	3,310.2	9	—	—
Virgin Island	6,682.9	3	—	—	—	—	—	—	—	—
Southwest—Total.....	105,686.8	60	1,099.5	6	21,042.3	13	25,190.1	50	999.9	5
Arkansas	9,414.3	6	—	—	3,252.5	3	3,647.9	9	—	—
Louisiana	18,540.3	15	—	—	—	—	2,380.9	4	284.6	2
New Mexico	7,930.7	3	3,050.6	5	1,223.6	1	4,158.5	7	103.0	1
Oklahoma	5,589.5	5	48.9	1	117.0	2	3,499.2	8	—	—
Texas	64,212.0	31	—	—	16,449.2	7	11,503.6	22	612.3	2
Western-Pacific—Total.....	148,533.7	69	9,645.3	8	19,769.7	20	18,621.3	51	951.7	5
Arizona	19,138.0	8	7,355.0	5	4,137.4	4	4,297.2	11	106.9	1
California	88,934.6	40	538.6	2	11,969.5	14	11,494.9	33	812.0	3
Hawaii	20,338.0	8	—	—	—	—	312.7	1	—	—
Nevada	16,316.9	5	—	—	3,662.8	2	2,516.5	6	32.8	1
South-Pacific ²	3,806.2	8	1,750.8	1	—	—	—	—	—	—

¹ Excludes Puerto Rico, Virgin Islands, and South Pacific.² American Samoa, Guam, North Mariana and Trust Territories.

IV. AIRPORT ACTIVITY OF CERTIFICATED ROUTE AIR CARRIERS

The data presented in this chapter were obtained from information reported quarterly to the Department of Transportation's Research and Special Programs Administration (RSPA) by the large scheduled certificated air carriers on Schedules T-3(a)(b)(c), RSPA Form 41, Uniform System of Accounts and Reports for Large Certificated Air Carriers. These statistics summarize domestic and international, scheduled and non scheduled service revenue; passenger enplanements; aircraft departures; and tons of freight, express, and mail enplaned at certificated points in the 50 States, the District of Columbia, other U.S. areas, and foreign countries served by the carriers.

This chapter covers only the large scheduled certificated air carriers; * and thus excludes the charter only, small certificated, commuter, intrastate and foreign-flag air carriers. Note that this chapter covers only a subset of the carriers covered by Chapter VI-U.S. Certificated Air Carriers- Operating Data

The activity information in Tables 4.5-4.9 is presented by "hubs". Air traffic hubs are geographical areas, and are based on the percentage of total passengers enplaned in the area. A hub may have more than one airport in it. This definition of hub should not be confused with the definition being used by the airlines in describing their "hub and spoke" structures. The hubs constitute a primary focal point for the transportation research programs of the FAA, and the analyses of individual cities within an area are treated in relationship to the entire area.

Individual communities fall into four hub classifications as determined by each community's percentage of the total enplaned revenue passengers in all services and all operations of U.S. certificated route air carriers within the 50 States, the District of Columbia, and other U.S. areas. Classifications in this issues are based on 431,416,133 total enplaned revenue passengers.

The percentage and number of enplaned passengers in the hub classifications for 12 months ending December 31, 1988 are:

Hub Classification	Percentage of Total Enplaned Passengers	Number of Enplaned Passengers
Large (L)	1.00 or more	4,314,161 or more
Medium (M)	0.25 to 0.99	1,078,540 to 4,314,161
Small (S)	0.05 to 0.24	215,708 to 1,078,540
Nonhub (N)	less than 0.05	less than 215,708

For the 12-month period ending December 31, 1988, there were 125 air traffic hubs. These hubs represented 27.0 percent of the 463 air traffic hubs and non hubs in the 50 States, the District of Columbia, and other U.S. areas receiving air carrier service during the period. The dominance of the hubs in the air traffic patterns is brought out by the fact that of the 431,416,133 passenger enplanements during the period, 97.7 percent (421,683,314) were recorded at the 125 hubs, while the non hubs accounted for only 2.3 percent (9,732,819). Of the 97.7 percent of the passenger enplanements recorded at the hubs, the 29 large hubs accounted for 74.6 percent, the 32 medium hubs accounted for 15.9 percent, and the 64 small hubs accounted for 7.3 percent.

* Large Certificated Air Carrier-carrier holding a certificate issued under Section 401 of the Federal Aviation Act of 1958 and operating aircraft designed to have a maximum passenger seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds or conducting international operations

Air Traffic Hubs

DECEMBER 31, 1988

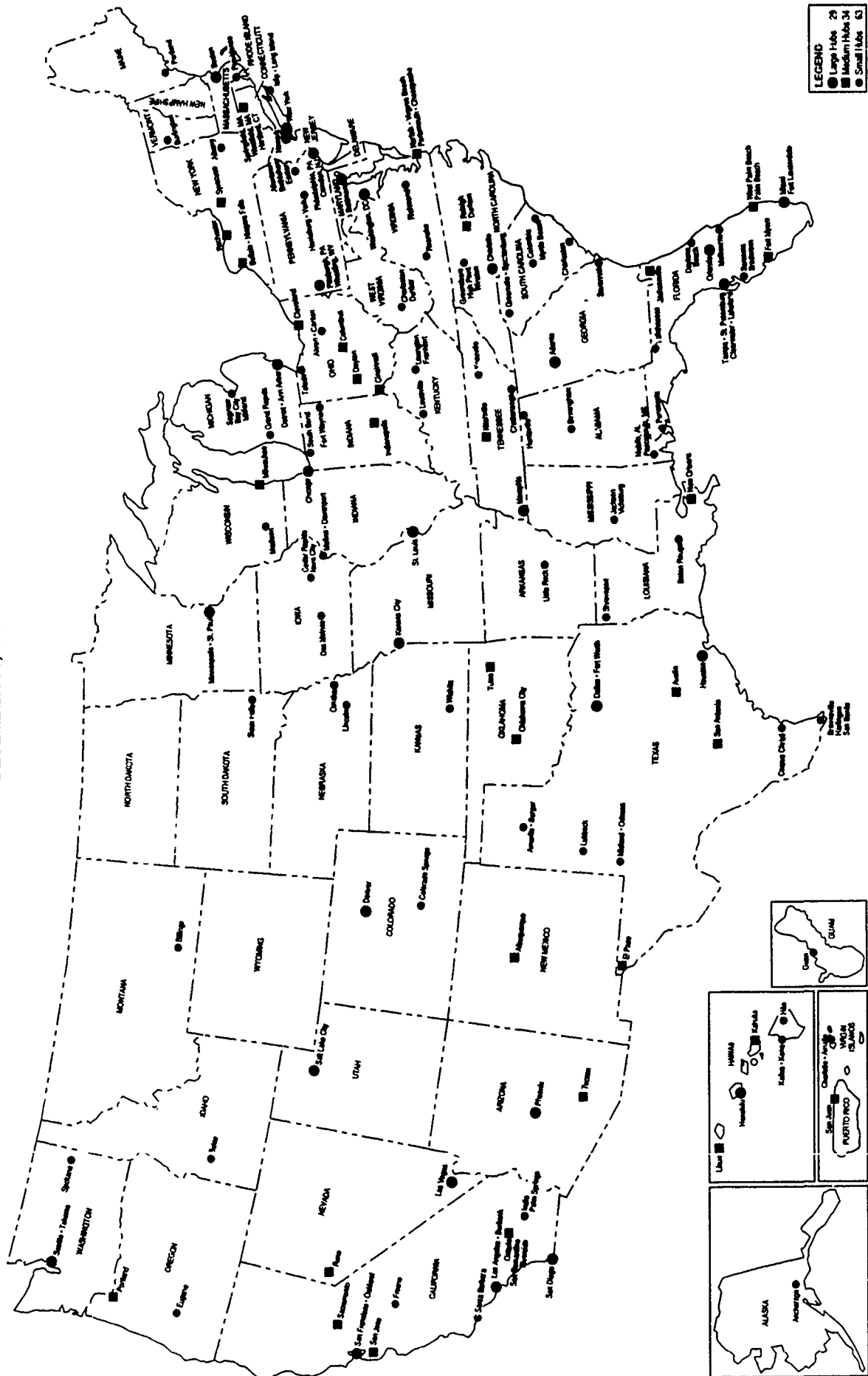


TABLE 4.1

LARGE SCHEDULED CERTIFICATED AIR CARRIERS AS OF DECEMBER 31, 1988

Aerial Transit	MGM Grand
Air America	Mid Pacific Airlines
Air California	Midway Airlines
Air Wisconsin	Midwest Express Airlines
Alaska Airlines	Northern Air Cargo
Aloha Airlines	Northwest Airlines
America West Airlines	Pacific Southwest Airlines
American Airlines	Pan American World Airways
American Trans Air	People Express Airlines
Arrow Air	Piedmont Aviation
Aspen Airways	Presidential Airways
Braniff	Reeve Aleutian Airways
Britt Airways	Rosenbalm
Challenge Air Transport	Southwest Airlines
Continental Air Lines	Suncoast
Delta Air Lines	Sunworld International Airlines
Eastern Air Lines	Tower Air
Federal Express	Transtar Airline
Florida Express	Trans World Airlines
Flying Tiger Line	United Air Lines
Hawaiian Airlines	U.S. Air
Horizon Air	Western Air Lines
Jet America Airlines	Zantop International Airlines
Markair	

TABLE 4.2 *

AMERICAN FLAG AIRLINE TRAFFIC ENPLANED—SYSTEM TOTAL LARGE SCHEDULED CERTIFICATED AIR CARRIERS SCHEDULED AND NONSCHEDULED OPERATIONS 1979 - 1988

Year	Enplaned Passengers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1979.....	314,456,936	289,907,853	24,554,083	5,307,981	1,131,534.5	3,584,251.1
1980.....	296,860,910	272,786,424	24,074,482	5,332,898	1,583,114.3	3,979,762.0
1981.....	281,379,313	260,937,112	20,442,251	5,136,293	1,220,857.0	3,158,342.5
1982.....	292,538,822	272,445,176	19,789,450	4,921,628	1,247,351.2	2,951,619.9
1983.....	319,886,291	297,484,708	22,401,583	5,043,040	1,293,103.6	3,219,495.8
1984.....	344,831,718	321,136,409	23,695,309	5,449,541	1,389,154.7	3,579,216.1
1985.....	381,108,118	356,103,027	25,005,091	5,696,217	1,486,900.6	3,415,759.7
1986.....	418,563,577	393,267,950	25,295,582	6,401,599	2,066,173.6	4,718,544.1
1987.....	448,913,726	417,869,993	31,043,733	6,640,400	1,621,734.2	5,073,264.9
1988.....	456,026,372	420,326,215	35,700,157	6,724,445	1,717,738.7	5,860,039.0

* Includes operations of certificated all-cargo carriers.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

TABLE 4.3 *

AMERICAN FLAG AIRLINE TRAFFIC ENPLANED—50 STATES LARGE SCHEDULED CERTIFICATED AIR CARRIERS SCHEDULED AND NONSCHEDULED OPERATIONS 1979 - 1988

Year	Enplaned Passengers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1979.....	296,132,661	286,880,624	9,252,037	5,094,736	1,071,071.8	3,122,796.4
1980.....	278,957,991	269,585,572	9,372,419	5,131,204	1,520,132.5	3,504,028.3
1981.....	263,684,851	256,007,148	7,677,703	4,940,700	1,160,808.6	2,643,964.8
1982.....	275,540,455	268,118,227	7,422,228	4,716,900	1,185,857.7	2,389,304.9
1983.....	301,347,773	292,962,603	8,385,170	4,825,467	1,227,581.1	2,558,106.8
1984.....	325,233,918	316,280,548	8,953,370	5,232,782	1,310,016.9	2,749,633.9
1985.....	360,710,517	351,346,625	9,363,892	5,476,633	1,416,643.1	2,548,025.1
1986.....	396,961,967	387,599,481	9,362,486	6,153,247	1,980,248.3	3,728,296.2
1987.....	422,747,715	411,311,165	11,436,550	6,372,793	1,534,719.8	3,948,060.7
1988.....	426,937,914	413,790,076	13,147,838	6,426,421	1,626,030.8	4,550,772.8

* Includes operations of certificated all-cargo carriers.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

TABLE 4.4 *

AMERICAN FLAG AIRLINE TRAFFIC ENPLANED—U.S. TERRITORIES LARGE SCHEDULED CERTIFICATED AIR CARRIERS SCHEDULED AND NONSCHEDULED OPERATIONS 1979 - 1988

Year	Enplaned Passengers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1979.....	2,901,802	3,240	2,898,562	31,388	5,660.7	60,788.1
1980.....	2,450,861	454	2,450,407	25,644	5,992.8	58,159.1
1981.....	2,221,106	1,807,670	413,436	21,080	6,135.3	56,561.2
1982.....	2,210,575	1,718,635	491,940	28,414	5,770.7	56,612.0
1983.....	2,372,861	1,788,115	584,746	34,942	6,035.8	68,088.1
1984.....	2,537,084	1,888,024	649,060	34,196	6,746.3	69,167.6
1985.....	2,630,980	1,940,298	690,682	29,026	6,799.9	53,001.9
1986.....	3,046,033	2,249,694	796,339	38,960	6,856.5	62,206.8
1987.....	4,068,330	2,940,763	1,127,567	39,690	7,389.6	66,511.0
1988.....	4,478,219	3,081,000	1,397,219	43,435	8,143.1	75,496.4

* Includes operations of certificated all-cargo carriers.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

TABLE 4.5 *

AMERICAN FLAG AIRLINE TRAFFIC ENPLANED—FOREIGN COUNTRIES LARGE SCHEDULED CERTIFICATED AIR CARRIERS SCHEDULED AND NONSCHEDULED OPERATIONS 1979 - 1988

Year	Enplaned Passengers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1979.....	15,422,473	3,018,989	12,403,484	181,857	54,902.0	400,667.0
1980.....	15,452,058	3,200,402	12,251,656	176,050	56,989.0	417,574.6
1981.....	15,473,356	3,122,244	12,351,112	174,513	53,913.1	457,816.5
1982.....	14,787,796	2,912,514	11,875,282	176,314	55,722.8	505,703.0
1983.....	16,165,657	2,733,990	13,431,667	182,631	59,486.7	593,300.9
1984.....	17,060,716	2,967,837	14,092,879	182,563	72,391.5	760,414.6
1985.....	17,766,621	2,816,104	14,950,517	190,558	63,477.6	814,732.7
1986.....	18,555,577	3,418,820	15,136,757	209,392	78,068.8	928,041.1
1987.....	22,097,681	3,618,065	18,479,616	227,917	79,624.7	1,058,693.2
1988.....	24,610,239	3,455,139	21,155,100	254,589	83,564.8	1,233,769.8

* Includes operations of certificated all-cargo carriers.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

TABLE 4.6

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER 12 MONTHS ENDED DECEMBER 31, 1988

CARRIER GROUP AIR CARRIER	OPERATION	SERV- ICE	AIRCRAF. DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS					
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL	
									PRIORITY	NON- PRIORITY		
MAJORS												
AMERICAN	DOMESTIC.....	S	726805	742872	726462	60104251	226824.83		149096.58	1528.90		
		NS	132			10210			1020.00			
		AS	726937	742872	726462	60114461	226824.83		150116.58	1528.90		
	INTERNA- TIONAL.....	S	36820	37265	36768	4191758	69504.48		9668.44	68.29		
		NS	13			1678			1000.00			
		AS	36833	37265	36768	4193436	69504.48		10668.44	68.29		
	TOTAL.....	S	763625	780137	763230	64296009	296329.31		158765.02	1597.19		
		NS	145			11888			2020.00			
		AS	763770	780137	763230	64307897	296329.31		160785.02	1597.19		
	CONTINENTAL.....	DOMESTIC.....	S	484507	496762	482094	33565767	129891.26	1237.01	107044.91	1.75	.30
			NS	1846			156858			.23		
			AS	486353	496762	482094	33722625	129891.26	1237.01	107045.14	1.75	.30
INTERNA- TIONAL.....		S	36527	35627	35164	4070104	79115.84	178.25	3907.24	.12	372.92	
		NS	1846			156858			.23			
		AS	522880	532389	517258	37792729	209007.10	1415.26	110952.38	1.87	373.22	
TOTAL.....		S	521034	532389	517258	37635871	209007.10	1415.26	110952.15	1.87	373.22	
		NS	1846			156858			.23			
DELTA	DOMESTIC.....	S	783782	790651	782803	57696867	320300.30		261536.40		3.04	
		NS	596			30831						
		AS	784378	790651	782803	57727698	320300.30		261536.40		3.04	
	INTERNA- TIONAL.....	S	18406	18414	18314	2272478	31622.90		1345.76		1243.15	
		NS	23			3540						
		AS	18429	18414	18314	2276018	31622.90		1345.76		1243.15	
	TOTAL.....	S	802188	809065	801117	59969345	351923.20		262882.16		1246.19	
		NS	619			34371						
		AS	802807	809065	801117	60003716	351923.20		262882.16		1246.19	
	EASTERN.....	DOMESTIC.....	S	417529	425832	410261	32469587	95217.28		144637.58	995.11	1.12
			NS	686			32071					
			AS	418215	425832	410261	32501658	95217.28		144637.58	995.11	1.12
INTERNA- TIONAL.....		S	31827	32069	31384	3117598	29648.70		3182.56	134.65	2.50	
		NS	280			18149						
		AS	32107	32069	31384	3135747	29648.70		3182.56	134.65	2.50	
TOTAL.....		S	449356	457901	441645	35587185	124865.98		147820.14	1129.76	3.62	
		NS	966			50220						
FEDERAL EXPRESS	DOMESTIC.....	S	163395	163395	163395		1375138.10					
		NS	227				5575.48					
		AS	163622	163395	163395		1380713.58					
	INTERNA- TIONAL.....	S	12452	12453	12453	1	45777.91					
		NS	109				4856.75					
		AS	12561	12453	12453	1	50634.66					
	TOTAL.....	S	175847	175848	175848	1	1420916.01					
		NS	336				10432.23					
		AS	176183	175848	175848	1	1431348.24					
	FLYING TIGER.....	DOMESTIC.....	S	21808	22491	21199		679366.97		21526.35	5788.86	
			NS	50				2552.86				
			AS	21858	22491	21199		681919.83		21526.35	5788.86	

TABLE 4.6—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER 12 MONTHS ENDED DECEMBER 31, 1988

CARRIER GROUP AIR CARRIER	OPERATION	SERV- ICE	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS					
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL	
									PRIORITY	NON- PRIORITY		
NORTHWEST	INTERNA- TIONAL	S	10602	10442	9830		742291.14		16047.91	9996.28		
		NS	7				326.41					
		AS	10609	10442	9830		742617.55		16047.91	9996.28		
	TOTAL	S	32410	32933	31029		1421658.11		37574.26	15785.14		
		NS	57				2879.27					
		AS	32467	32933	31029		1424537.38		37574.26	15785.14		
	DOMESTIC	S	466332	478246	464768	31512086	263974.95		152267.95	1614.34	138.16	
		NS	100			11484	2.52					
		AS	466432	478246	464768	31523570	263977.47		152267.95	1614.34	138.16	
	INTERNA- TIONAL	S	21633	21719	21396	4271618	265700.51		15258.00	7259.47	1732.24	
		NS	245			71474	690.19					
		AS	21878	21719	21396	4343092	266390.70		15258.00	7259.47	1732.24	
	TOTAL	S	487965	499965	486164	35783704	529675.46		167525.95	8873.81	1870.40	
		NS	345			82958	692.71					
		AS	488310	499965	486164	35866662	530368.17		167525.95	8873.81	1870.40	
PAN AMERICAN	DOMESTIC	S	73376	74160	72266	6775121	53292.90		20023.95	566.86	13.88	
		NS	152			35985						
		AS	73528	74160	72266	6811106	53292.90		20023.95	566.86	13.88	
	INTERNA- TIONAL	S	88894	89899	87997	9979262	185408.70		33121.08	5100.63	10970.34	
		NS	1010			137938	523.78		1.65			
		AS	89904	89899	8799	10117200	185932.48		33122.73	5100.63	10970.34	
	TOTAL	S	162270	164059	160263	16754383	238701.60		53145.02	5667.49	10984.22	
		NS	1162			173923	523.78		1.65			
		AS	163432	164059	160263	16928306	239225.38		53146.68	5667.49	10984.22	
	PIEDMONT	DOMESTIC	S	482743	490827	481806	26915894	59937.85		52793.06		
			NS	294			7578					
			AS	483037	490827	481806	26923472	59937.85		52793.06		
		INTERNA- TIONAL	S	2186	2197	1634	201030	5852.29		1.33		
			NS									
			AS	2186	2197	1634	201030	5852.29		1.33		
TRANS WORLD	TOTAL	S	484929	493024	483440	27116924	65790.14		52794.39			
		NS	294			7578						
		AS	485223	493024	483440	27124502	65790.14		52794.39			
	DOMESTIC	S	296805	303176	295754	21338640	95060.89		142926.69	959.89		
		NS	1231			54767						
		AS	298036	303176	295754	21393407	95060.89		142926.69	959.89		
UNITED	INTERNA- TIONAL	S	23865	24077	23627	3783996	75560.41		17532.12	4779.69	1045.82	
		NS	3			708						
		AS	23868	24077	23627	3784704	75560.41		17532.12	4779.69	1045.82	
	TOTAL	S	320670	327253	319381	25122636	170621.30		160458.81	5739.58	1045.82	
		NS	1234			55475						
		AS	321904	327253	319381	25178111	170621.30		160458.81	5739.58	1045.82	
UNITED	DOMESTIC	S	611063	619727	609316	53279189	374346.05		248746.40			
		NS	747			36077						
		AS	611810	619727	609316	53315266	374346.05		248746.40			
	INTERNA- TIONAL	S	14801	14823	14626	3046917	73459.72		6331.14		1023.43	
		NS	30			5424						
		AS	14831	14823	14626	3052341	73459.72		6331.14		1023.43	
	TOTAL	S	625864	634550	623942	56326106	447805.77		255077.54		1023.43	
		NS	777			41501						
		AS	626641	634550	623942	56367607	447805.77		255077.54		1023.43	

TABLE 4.6--Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER 12 MONTHS ENDED DECEMBER 31, 1988

CARRIER GROUP AIR CARRIER	OPERATION	SERV- ICE	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS					
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL	
									PRIORITY	NON- PRIORITY		
US AIR.....	DOMESTIC.....	S	520995	530158	520572	32466061	35895.77		76740.90			
		NS	2747			165434						
		AS	523742	530158	520572	32631495	35895.77		76740.90			
TOTAL, MAJORS.....	DOMESTIC.....	S	5049140	5138297	5030696	356123463	3709247.15	1237.01	1377340.77	11455.71	156.50	
		NS	8808			541295	8130.86		1020.23			
		AS	5057948	5138297	5030696	356664758	3717378.01	1237.01	1378361.00	11455.71	156.50	
	INTERNA- TIONAL.....	S	298013	298985	293193	34934762	1603942.60	178.25	106395.58	27339.13	16390.40	
		NS	1720			238911	6397.13		1001.65			
		AS	299733	298985	293193	35173673	1610339.73	178.25	107397.23	27339.13	16390.40	
	TOTAL.....	S	5347153	5437282	5323889	391358225	5313189.75	1415.26	1483736.35	38794.84	16546.90	
		NS	10528			780206	14527.99		2021.88			
		AS	5357681	5437282	5323889	391838431	5327717.74	1415.26	1485758.23	38794.84	16546.90	
	NATIONALS											
	AIR WISCONSIN.....	DOMESTIC.....	S	88450	92530	88331	2419615	986.00		1474.00		
			NS	1			36					
AS			88451	92530	88331	2419651	986.00		1474.00			
ALASKA.....	DOMESTIC.....	S	97611	98129	96659	4772029	47137.07		20390.84	10835.35		
		NS	481			30444	83.67		294.64			
		AS	98092	98129	96659	4802473	47220.74		20685.48	10835.35		
ALOHA.....	DOMESTIC.....	S	56812	57794	50933	3428293	46990.95		3435.61	1.46		
		NS	72			4778						
		AS	56884	57794	50933	3433071	46990.95		3435.61	1.46		
AMERICA WEST.....	DOMESTIC.....	S	189137	190188	188559	12651025	21060.12		14573.26			
		NS	917			98371						
		AS	190054	190188	188559	12749396	21060.12		14573.26			
AMERICAN TRANS.....	DOMESTIC.....	S	468	468	468	39952						
		NS	10.9			82033	5.54					
		AS	1487	468	468	121985	5.54					
BRANIFF.....	DOMESTIC.....	S	51424	52137	51323	4318069	11850.91	160.40	6282.89			
		NS	1293			171948	.53					
		AS	52717	52137	51323	4490017	11851.44	160.40	6282.89			
	INTERNA- TIONAL.....	S	14	14	14	1678	.82					
		NS	4									
		AS	18	14	14	1678	.82					
	TOTAL.....	S	51438	52151	51337	4319747	11851.73	160.40	6282.89			
		NS	1297			171948	.53					
		AS	52735	52151	51337	4491695	11852.26	160.40	6282.89			
	HAWAIIAN.....	DOMESTIC.....	S	81225	89849	76953	5340024	15211.50		6879.86	137.07	
			NS	1849			112350					
			AS	83074	89849	76953	5452374	15211.50		6879.86	137.07	
INTERNA- TIONAL.....		S	1949	1877	1778	157287	955.04		4286.84			
		NS	200			38551						
		AS	2149	1877	1778	195838	955.04		4286.84			
TOTAL.....	S	83174	91726	78731	5497311	16166.54		11166.70	137.07			
	NS	2049			150901							
	AS	85223	91726	78731	5648212	16166.54		11166.70	137.07			
MIDWAY.....	DOMESTIC.....	S	78047	80123	77929	4258052						
		NS	196			4387			14.33			
		AS	78243	80123	77929	4262439			14.33			

TABLE 4.6—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER 12 MONTHS ENDED DECEMBER 31, 1988

CARRIER GROUP AIR CARRIER	OPERATION	SERV- ICE	AIRCRAFT DEPARTURES			EN- PLANED PASSEN GERS	ENPLANED REVENUE TONS					
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL	
									PRIORITY	NON- PRIORITY		
PACIFIC SOUTHWEST	DOMESTIC	S	40104	40592	39786	2365359	3955.59		2445.59			
		NS	178			20468						
		AS	40282	40592	39786	2385827	3955.59		2445.59			
SOUTHWEST	DOMESTIC	S	274736	278219	274736	16841674						
		NS	112			11169						
		AS	274848	278219	274736	16852843						
ZANTOP	DOMESTIC	S	13175	9092	8965		59513.59					
TOTAL, NATIONALS	DOMESTIC	S	971189	989121	954642	56434092	206705.73	160.40	55482.05	10973.88		
		NS	6118			535984	89.74		308.97			
		AS	977307	989121	954642	56970076	206795.47	160.40	55791.02	10973.88		
	INTERNA- TIONAL	S	1963	1891	1792	158965	955.86		4286.84			
		NS	204			38551						
		AS	2167	1891	1792	197516	955.86		4286.84			
	TOTAL	S	973152	991012	956434	56593057	207661.59	160.40	59768.89	10973.88		
		NS	6322			574535	89.74		308.97			
		AS	979474	991012	956434	57167592	207751.33	160.40	60077.86	10973.88		
LARGE REGIONALS												
AIR AMERICA	DOMESTIC	S	1159	1200	1133	302789						
		NS	73			10001						
		AS	1232	1200	1133	312790						
ARROW	DOMESTIC	S	528	528	528		4410.00					
		NS	310				9730.70					
		AS	838	528	528		14140.70					
	INTERNA- TIONAL	S	4	4	4		123.30					
		NS	132				4142.50					
		AS	136	4	4		4265.80					
	TOTAL	S	532	532	532		4533.30					
NS	442				13873.20							
AS	974	532	532		18406.50							
ASPEN	DOMESTIC	S	30339	31579	29998	877839	907.54		89.62			
		NS	155			7218						
		AS	30494	31579	29998	885057	907.54		89.62			
FLORIDA EXPRESS	DOMESTIC	S	24796	25392	24645	1106655	250.71	19.29	750.42			
		NS	32			1076						
		AS	24828	2539	24645	1107731	250.71	19.29	750.42			
	INTERNA- TIONAL	S	481	481	480	23470						
		TOTAL	S	25277	25873	25125	1130125	250.71	19.29	750.42		
		NS	32			1076						
AS	25309	25873	25125	1131201	250.71	19.29	750.42					
HORIZON	DOMESTIC	S	149215	153785	149205	1400928	163476.43		54541.04			
		NS	124			6413						
		AS	149339	153785	149205	1407341	163476.43		54541.04			
MARKAIR	DOMESTIC	S	19005	20474	17903	356944	22982.49		2664.96	20602.38		
		NS	486			1154	1256.45					
		AS	19491	20474	17903	358098	24238.94		2664.96	20602.38		

TABLE 4.6—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER 12 MONTHS ENDED DECEMBER 31, 1988

CARRIER GROUP AIR CARRIER	OPERATION	SERV- ICE	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON- PRIORITY	
MIDWEST EXPRESS	DOMESTIC.....	S	11992	12131	11992	402084	893.00		22.00	3244.00	
		NS	120			4759					
		AS	12112	12131	11992	406843	893.00		22.00	3244.00	
NORTHERN AIR.....	DOMESTIC.....	S	8242	7516	7329		19359.59		706.00	19445.79	
		NS	90			315.17					
		AS	8332	7516	7329		19674.76		706.00	19445.79	
PRESIDENTIAL	DOMESTIC.....	S	37831	41545	37831	854354					
		NS	10			4037					
		AS	37931	41545	37831	858391					
REEVE	DOMESTIC.....	S	2582	2954	2583	40550	1065.64		2074.94		
		NS	455			6891	584.11		116.49		
		AS	3037	2954	2583	47441	1649.75		2191.43		
ROSENBAUM	INTERNA- TIONAL.....	S	373	229	373		33643.55				
		NS	59				696.60				
		AS	432	229	373		34340.15				
SUNWORLD	DOMESTIC.....	S	889	1104	889	53689	1941.00				
		NS	162			3186					
		AS	1051	1104	889	56875	1941.00				
TOWER	INTERNA- TIONAL.....	S	778	778	778	246418					
		NS	140			59080					
		AS	918	778	778	305498					
WESTAIR	DOMESTIC.....	S	92430	95567	92182	1223466	72.00			87.50	
TOTAL, LARGE REGIONALS.....	DOMESTIC.....	S	379008	393775	376218	6619298	215358.40	19.29	60848.98	43379.67	
		NS	2107			44735	11886.43		116.49		
		AS	381115	393775	376218	6664033	227244.83	19.29	60965.47	43379.67	
	INTERNA- TIONAL.....	S	1636	1492	1635	269888	33766.85				
		NS	331			59080	4839.10				
		AS	1967	1492	1635	328968	38605.95				
	TOTAL.....	S	380644	395267	377853	6889186	249125.25	19.29	60848.98	43379.67	
		NS	2438			103815	16725.53		116.49		
		AS	383082	395267	377853	6993001	265850.78	19.29	60965.47	43379.67	
MEDIUM REGIONALS AERIAL TRANSIT	INTERNA- TIONAL.....	S	149	149	149		1489.10				
NS		500				6788.20					
AS		649	149	149		8277.30					
CHALLENGE AIR CARGO.....	INTERNA- TIONAL.....	S	2237	2237	2237		48736.00		830.00		
		NS	8				110.85				
		AS	2245	2237	2237		48846.85		830.00		
MGM GRAND	DOMESTIC.....	S	1298	1311	1298	27037				411.82	
		NS	16			311					
		AS	1314	1311	1298	27348				411.32	

TABLE 4.6—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER 12 MONTHS ENDED DECEMBER 31, 1988

CARRIER GROUP AIR CARRIER	OPERATION	SERV- ICE	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON- PRIORITY	
TOTAL, MEDIUM REGIONALS.....	DOMESTIC.....	S	1298	1311	1298	27037				411.82	
		NS	16			311					
		AS	1314	1311	1298	27348				411.82	
	INTERNA- TIONAL.....	S	2386	2386	2386		50225.10		830.00		
		NS	508				6899.05				
		AS	2894	2386	2386		57124.15		830.00		
TOTAL.....	S	3684	3697	3684	27037	50225.10		830.00	411.82		
	NS	524			311	6899.05					
	AS	4208	3697	3684	27348	57124.15		830.00	411.82		
OVER-ALL TOTAL, ALL CARRIERS	DOMESTIC.....	S	6400635	6522504	6362854	419203890	4131311.28	1416.70	1493671.80	66221.08	156.50
		NS	17049			1122325	20107.03		1445.69		
		AS	6417684	6522504	6362854	420326215	4151418.31	1416.70	1495117.49	66221.08	156.50
	INTERNA- TIONAL.....	S	303998	304754	299006	35363615	1688890.41	178.25	111512.42	27339.13	16390.40
		NS	2763			336542	18135.28		1001.65		
		AS	306761	304754	299006	35700157	1707025.69	178.25	112514.07	27339.13	16390.40
	TOTAL.....	S	6704633	6827258	6661860	454567505	5820201.69	1594.95	1605184.22	93560.21	16546.90
		NS	19812			1458867	38242.31		2447.34		
		AS	6724445	6827258	6661860	456026372	5858444.00	1594.95	1607631.56	93560.21	16546.90

Note: S = Scheduled
NS = Nonscheduled
AS = All Service

TABLE 4.7

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS					
			TOTAL PER-FORMED	SCHED-ULED	SCHED-ULED COMPLET-ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL	
									PRIORITY	NON-PRIORITY		
50 U.S. STATES												
ALABAMA	DOMESTIC.....	S	41282	42013	41064	1860590	12154.86	1.72	4776.68	.23		
		NS	24			1479						
		AS	41306	42013	41064	1862069	12154.86	1.72	4776.68	.23		
ALASKA	DOMESTIC.....	S	71716	73904	68680	2047643	284613.23		16638.53	53318.59	54.65	
		NS	1631			39713	4468.82		93.51			
		AS	73347	73904	68680	2087356	289082.05		16732.04	53318.59	54.65	
	INTERNA-TIONAL.....	S	2197	1940	1935	7151	149637.48		5300.59	1923.36	22.44	
		NS	19			1262	89.10					
		AS	2216	1940	1935	8413	149726.58		5300.59	1923.36	22.44	
	TOTAL.....	S	73913	75844	70615	2054794	434250.71		21939.12	55241.95	77.09	
		NS	1650			40975	4557.92		93.51			
		AS	75563	75844	70615	2095769	438808.63		22032.63	55241.95	77.09	
ARIZONA	DOMESTIC.....	S	160508	161832	160164	10913153	36130.16	1.96	18800.47	.37		
		NS	270			17873	179.54		1000.00			
		AS	160778	161832	160164	10931026	36309.70	1.96	19800.47	.37		
	INTERNA-TIONAL.....	S	366	366	366	22262	4.79					
		AS										
	TOTAL.....	S	160874	162198	160530	10935415	36134.95	1.96	18800.47	.37		
ARKANSAS.....	DOMESTIC.....	NS	270			17873	179.54		1000.00			
		AS	161144	162198	160530	10953288	36314.49	1.96	19800.47	.37		
		S	15380	15567	15335	879643	844.47		3491.65			
CALIFOR-NIA	DOMESTIC.....	NS	7			382						
		AS	15387	15567	15335	880025	844.47		3491.65			
		S	715832	730646	714512	50107252	620404.51	320.49	142156.45	2416.28	8.56	
COLORADO.....	DOMESTIC.....	NS	1259			118777	373.61		20.00			
		AS	717091	730646	714512	50226029	620778.12	320.49	142176.45	2416.28	8.56	
		S	7740	7758	7726	1291067	29227.44	.85	4426.36	390.34	7.14	
	INTERNA-TIONAL.....	NS	9			1700						
		AS	7749	7758	7726	1292767	29227.44	.85	4426.36	390.34	7.14	
		TOTAL.....	S	723572	738404	722238	51398319	649631.95	321.34	146582.81	2806.62	15.70
	CONNECTI-CUT	DOMESTIC.....	NS	1268			120477	373.61		20.00		
			AS	724840	738404	722238	51518796	650005.56	321.34	146602.81	2806.62	15.70
			S	214008	217629	213114	15480686	72604.91	7.11	55396.81	8.49	
CONNECTI-CUT	DOMESTIC.....	NS	365			18659	3.90					
		AS	214373	217629	213114	15499345	72608.81	7.11	55396.81	8.49		
		S	227	232	226	43046	641.11		33.45			
	INTERNA-TIONAL.....	S	214235	217861	213340	15523732	73246.02	7.11	55430.26	8.49		
		NS	365			18659	3.90					
		AS	214600	217861	213340	15542391	73249.92	7.11	55430.26	8.49		
CONNECTI-CUT	DOMESTIC.....	S	32537	33098	32418	2320340	9807.38	.40	15621.85	8.78		
		NS	33			1646						
		AS	32570	33098	32418	2321986	9807.38	.40	15621.85	8.78		
	INTERNA-TIONAL.....	S	21									
		AS										
		TOTAL.....	S	32558	33098	32418	2320340	9807.38	.40	15621.85	8.78	
CONNECTI-CUT	DOMESTIC.....	NS	33			1646						
		AS	32591	33098	32418	2321986	9807.38	.40	15621.85	8.78		
		S	21									

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS				
			TOTAL PER-FORMED	SCHED-ULED	SCHED-ULED COMPLET-ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON-PRIORITY	
DELAWARE.....	DOMESTIC.....	S	2	1	1	1	112.44				
DIST OF COL	DOMESTIC.....	S	174329	178620	172889	11340820	57616.30	15.51	51601.58	774.33	.02
		NS	163			6615	162.01				
		AS	174492	178620	172889	11347435	57778.31	15.51	51601.58	774.33	.02
	INTERNA-TIONAL.....	S	1454	1483	1436	238922	5737.59		4493.88	12.41	
		NS	1			270					
		AS	1455	1483	1436	239192	5737.59		4493.88	12.41	
	TOTAL.....	S	175783	180103	174325	11579742	63353.89	15.51	56095.46	786.74	.02
		NS	164			6885	162.01				
		AS	175947	180103	174325	11586627	63515.90	15.51	56095.46	786.74	.02
FLORIDA	DOMESTIC.....	S	410677	417237	409109	30712615	168812.27	13.68	66939.42	141.23	4.66
		NS	1923			196495	3097.62				
		AS	412600	417237	409109	30909110	171909.89	13.68	66939.42	141.23	4.66
	INTERNA-TIONAL.....	S	18658	18804	18518	2248868	63338.35		6037.39	793.31	.93
		NS	887			17593	11041.55				
		AS	19545	18804	18518	2266461	74379.90		6037.39	793.31	.93
	TOTAL.....	S	429335	436041	427627	32961483	232150.62	13.68	72976.81	934.54	5.59
		NS	2810			214088	14139.17				
		AS	432145	436041	427627	33175571	246289.79	13.68	72976.81	934.54	5.59
GEORGIA.....	DOMESTIC.....	S	288672	294450	287963	22039603	133653.84	.52	113437.94	136.47	
		NS	397			12601	1132.20				
		AS	289069	294450	287963	22052204	134786.04	.52	113437.94	136.47	
	INTERNA-TIONAL.....	S	3475	3487	3461	521121	9925.13		815.53		
		NS	14			1162					
		AS	3489	3487	3461	522283	9925.13		815.53		
	TOTAL.....	S	292147	297937	291424	22560724	143578.97	.52	114253.47	136.47	
		NS	411			13763	1132.20				
		AS	292558	297937	291424	22574487	144711.17	.52	114253.47	136.47	
HAWAII	DOMESTIC.....	S	153812	162609	143959	12068734	174972.42	34.62	17947.51	491.61	.77
		NS	1408			84034	41.76				
		AS	155220	162609	143959	12152768	175014.18	34.62	17947.51	491.61	.77
	INTERNA-TIONAL.....	S	4640	4606	4505	1008319	26764.32	44.52	6486.03	185.57	8.26
		NS	99			18686					
		AS	4739	4606	4505	1027005	26764.32	44.52	6486.03	185.57	8.26
	TOTAL.....	S	158452	167215	148464	13077053	201736.74	79.14	24433.54	677.18	9.03
		NS	1507			102720	41.76				
		AS	159959	167215	148464	13179773	201778.50	79.14	24433.54	677.18	9.03
IDAHO.....	DOMESTIC.....	S	35445	36273	35402	702684	30626.62		18018.98		
		NS	23			1361					
		AS	35468	36273	35402	704045	30626.62		18018.98		
ILLINOIS.....	DOMESTIC.....	S	394764	405824	393888	29809443	304502.35	45.53	139710.99	1172.50	7.08
		NS	474			19082	161.76		1.43		
		AS	395238	405824	393888	29828525	304664.11	45.53	139712.42	1172.50	7.08
	INTERNA-TIONAL.....	S	2935	2946	2932	414468	12036.11		3908.68	15.63	
		NS	4				317.48				
		AS	2939	2946	2932	414468	12353.59		3908.68	15.63	
	TOTAL.....	S	397699	408770	396820	30223911	316538.46	45.53	143619.67	1188.13	7.08
		NS	478			19082	479.24		1.43		
		AS	398177	408770	396820	30242993	317017.70	45.53	143621.10	1188.13	7.08

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSEN- GERS	ENPLANED REVENUE TONS					
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL	
									PRIORITY	NON- PRIORITY		
INDIANA.....	DOMESTIC.....	S	61137	62290	60743	2993473	17215.88		10633.45	4.58		
		NS	866			44925	5.54					
		AS	62003	62290	60743	3038398	17221.42		10633.45	4.58		
	INTERNA- TIONAL.....	S	1									
		TOTAL.....	S	61138	62290	60743	2993473	17215.88		10633.45	4.58	
			NS	866			44925	5.54				
IOWA	DOMESTIC.....	AS	62004	62290	60743	3038398	17221.42		10633.45	4.58		
		S	27672	28013	27519	1124340	7379.30		8367.44	.15		
		NS	41			2365						
	KANSAS.....	AS	27713	28013	27519	1126705	7379.30		8367.44	.15		
		DOMESTIC.....	S	14378	14580	14291	602128	10691.21	25.44	2911.40		
			NS	14			221					
KENTUCKY....	DOMESTIC.....	AS	14392	14580	14291	602349	10691.21	25.44	2911.40			
		S	37481	38085	37371	1341253	10235.88	.11	6686.19			
		NS	72			4184						
	LOUISIANA	AS	37553	38085	37371	1345437	10235.88	.11	6686.19			
		DOMESTIC.....	S	65136	66122	64966	3975464	24263.64	.47	10128.69		
			NS	101			8218					
MAINE.....	DOMESTIC.....	AS	65237	66122	64966	3983682	24263.64	.47	10128.69			
		S	301	245	235	19759	10.45		.39			
		INTERNA- TIONAL.....	S	65437	66367	65201	3995223	24274.09	.47	10129.08		
	MAINE.....	NS	101			8218						
		DOMESTIC.....	AS	65538	66367	65201	4003441	24274.09	.47	10129.08		
			S	12637	12895	12617	744215	3908.66	9.03	1634.61	9.59	
MARYLAND....	DOMESTIC.....	NS	7			469						
		AS	12644	12895	12617	744684	3908.66	9.03	1634.61	9.59		
		S	80									
	MAINE.....	INTERNA- TIONAL.....	S	12717	12895	12617	744215	3908.66	9.03	1634.61	9.59	
		TOTAL.....	NS	7			469					
			AS	12724	12895	12617	744684	3908.66	9.03	1634.61	9.59	
MARYLAND....	DOMESTIC.....	S	71328	72228	70929	4264093	15102.16	.77	18530.25	11.99		
		NS	134			4267						
		AS	71462	72228	70929	4268360	15102.16	.77	18530.25	11.99		
	MASSACHU- SEITTS	INTERNA- TIONAL.....	S	1015	1026	1012	101338	695.72		860.65	67.12	
			S	72343	73254	71941	4365431	15797.88	.77	19390.90	79.11	
		MASSACHU- SEITTS	TOTAL.....	NS	134			4267				
AS	72477			73254	71941	4369698	15797.88	.77	19390.90	79.11		
MASSACHU- SEITTS	DOMESTIC.....		S	116639	118246	114931	9799062	107795.04	3.93	28584.22	763.66	27.31
		NS	293			19174	38.41					
		AS	116932	118246	114931	9818236	107833.45	3.93	28584.22	763.66	27.31	
	MASSACHU- SEITTS	INTERNA- TIONAL.....	S	2584	2594	2563	465187	10485.73		1264.87	135.12	1.98
			NS	1								
		MASSACHU- SEITTS	TOTAL.....	AS	2585	2594	2563	465187	10485.73		1264.87	135.12
S	119223			120840	117494	10264249	118280.77	3.93	29849.09	898.78	29.29	
MASSACHU- SEITTS	TOTAL.....		NS	294			19174	38.41				
		AS	119517	120840	117494	10283423	118319.18	3.93	29849.09	898.78	29.29	

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS				
			TOTAL PER-FORMED	SCHED-ULED	SCHED-ULED COMPLET-ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON-PRIORITY	
MICHIGAN.....	DOMESTIC.....	S	161559	164682	160136	10436510	56302.61	2.53	38646.46	23.66	6.52
		NS	359			33231	13.60		.45		
		AS	161918	164682	160136	10469741	56316.21	2.53	38646.91	23.66	6.52
	INTERNA-TIONAL.....	S	723	732	718	134183	2282.79		861.23	.01	
	TOTAL.....	S	162282	165414	160854	10570693	58585.40	2.53	39507.69	23.67	6.52
		NS	359			33231	13.60		.45		
AS		162641	165414	160854	10603924	58599.00	2.53	39508.14	23.67	6.52	
MINNESOTA	DOMESTIC.....	S	113907	116999	113760	8259421	53884.16	2.66	42076.23	32.58	12.24
		NS	584			82079	15.40		.40		
		AS	114491	116999	113760	8342100	53899.56	2.66	42076.63	32.58	12.24
	INTERNA-TIONAL.....	S	257	253	252	64708	2440.81		85.77	.01	.04
		NS	18			557	159.87				
		AS	275	253	252	65265	2600.68		85.77	.01	.04
	TOTAL.....	S	114164	117252	114012	8324129	56324.97	2.66	42162.00	32.59	12.28
		NS	602			83236	175.27		.40		
		AS	114766	117252	114012	8407365	56500.24	2.66	42162.40	32.59	12.28
MISSISSIPPI	DOMESTIC.....	S	11531	11694	11493	491206	709.50		1882.66		
		NS	3			99					
		AS	11534	11694	11493	491305	709.50		1882.66		
MISSOURI.....	DOMESTIC.....	S	209615	213020	208409	14042370	61676.88	114.16	74750.99	34.42	
		NS	498			15691					
		AS	210113	213020	208409	14058061	61676.88	114.16	74750.99	34.42	
	INTERNA-TIONAL.....	S	594	600	593	87842	1739.12		693.76		
	TOTAL.....	S	210209	213620	209002	14130212	63416.00	114.16	75444.75	34.42	
		NS	498			15691					
AS		210707	213620	209002	14145903	63416.00	114.16	75444.75	34.42		
MONTANA.....	DOMESTIC.....	S	32288	32846	32221	680949	12212.61	.16	3443.73		
		NS	11			674					
		AS	32299	32846	32221	681623	12212.61	.16	3443.73		
NEBRASKA.....	DOMESTIC.....	S	27574	27796	27293	1265378	4364.83	3.75	10190.30	5.66	
		NS	72			5332			.23		
		AS	27646	27796	27293	1270710	4364.83	3.75	10190.53	5.66	
NEVADA	DOMESTIC.....	S	101728	102482	101356	8239000	11844.31	.81	8192.36	.45	
		NS	681			77860					
		AS	102409	102482	101356	8316860	11844.31	.81	8192.36	.45	
	INTERNA-TIONAL.....	S	4								
	TOTAL.....	S	101732	102482	101356	8239000	11844.31	.81	8192.36	.45	
		NS	681			77860					
AS		102413	102482	101356	8316860	11844.31	.81	8192.36	.45		
NEW HAMPSHIRE	DOMESTIC.....	S	3673	3704	3670	167323	1643.64		716.16		
		NS	32			1257					
		AS	3705	3704	3670	168880	1643.64		716.16		
NEW JERSEY	DOMESTIC.....	S	138120	141390	137093	10510020	117677.78	45.16	32717.83	702.33	
		NS	335			24095	1552.15				
		AS	138455	141390	137093	10534115	119229.93	45.16	32717.83	702.33	

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS					
			TOTAL PER-FORMED	SCHED-ULED	SCHED-ULED COMPLET-ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL	
									PRIORITY	NON-PRIORITY		
	INTERNA-TIONAL.....	S	2181	2170	2149	330275	18856.13	.95	201.04			
		NS	2				124.60					
		AS	2183	2170	2149	330275	18980.73	.95	201.04			
	TOTAL.....	S	140301	143560	139242	10840295	136533.91	46.11	32918.87	702.33		
		NS	337			24095	1676.75					
		AS	140638	143560	139242	10864390	138210.66	46.11	32918.87	702.33		
NEW MEXICO.....	DOMESTIC.....	S	36773	37128	36659	2121315	5674.33	.07	4547.32	5.48		
		NS	49			3197						
		AS	36822	37128	36659	2124512	5674.33	.07	4547.32	5.48		
NEW YORK.....	DOMESTIC.....	S	318519	323196	315283	23998787	186363.11	13.51	91485.05	2223.81	10.09	
		NS	782			39176	488.90		1.20			
		AS	319301	323196	315283	24037963	186852.01	13.51	91486.25	2223.81	10.09	
	INTERNA-TIONAL.....	S	21053	21333	20950	4120689	84304.81		27069.56	4305.29	29.63	
		NS	171			66074	354.61					
		AS	21224	21333	20950	4186763	84659.42		27069.56	4305.29	29.63	
	TOTAL.....	S	339572	344529	336233	28119476	270667.92	13.51	118554.61	6529.10	39.72	
		NS	953			105250	843.51		1.20			
		AS	340525	344529	336233	28224726	271511.43	13.51	118555.81	6529.10	39.72	
	NORTH CAROLINA ...	DOMESTIC.....	S	205733	209554	204816	11695528	58343.44		27920.32	6.14	
			NS	191			5254					
			AS	205924	209554	204816	11700782	58343.44		27920.32	6.14	
	INTERNA-TIONAL.....	S	941	948	640	83781	3951.61		9.60	.05		
	TOTAL.....	S	206674	210502	205456	11779309	62295.05		27929.92	6.19		
		NS	191			5254						
		AS	206865	210502	205456	11784563	62295.05		27929.92	6.19		
	NORTH DAKOTA	DOMESTIC.....	S	13173	13292	13114	466946	2777.97		1216.57		
			NS	5			176					
		AS	13178	13292	13114	467122	2777.97		1216.57			
OHIO	DOMESTIC.....	S	217571	220886	216450	11427810	178697.72	1.27	48485.43	440.88	.10	
		NS	447			20322			3.45			
		AS	218018	220886	216450	11448132	178697.72	1.27	48488.88	440.88	.10	
	INTERNA-TIONAL.....	S	456	453	456	57803	2410.70		.79			
	TOTAL.....	S	218027	221339	216906	11485613	181108.42	1.27	48486.22	440.88	.10	
		NS	447			20322			3.45			
		AS	218474	221339	216906	11505935	181108.42	1.27	48489.67	440.88	.10	
	OKLAHOMA...	DOMESTIC.....	S	54454	55190	54247	2851868	15339.43	4.04	9106.12	.37	1.12
			NS	96			3146					
			AS	54550	55190	54247	2855014	15339.43	4.04	9106.12	.37	1.12
	OREGON.....	DOMESTIC.....	S	93125	95084	92996	3171788	90321.95	.19	19107.70	1.62	.02
			NS	175			8804	702.25				
		AS	93300	95084	92996	3180592	91024.20	.19	19107.70	1.62	.02	
INTERNA-TIONAL.....		S	640	642	639	64429	4653.95		82.21			
		NS	2				76.10					
		AS	642	642	639	64429	4730.05		82.21			
	TOTAL.....	S	93765	95726	93635	3236217	94975.90	.19	19189.91	1.62	.02	
		NS	177			8804	778.35					
		AS	93942	95726	93635	3245021	95754.25	.19	19189.91	1.62	.02	

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERVICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS					
			TOTAL PERFORMED	SCHEDULED	SCHEDULED COMPLETED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL	
									PRIORITY	NON-PRIORITY		
PENNSYLVANIA.....	DOMESTIC.....	S	242050	246370	241495	15908641	70320.04	5.50	72707.54	453.97		
		NS	774			34213	200.32		6.25			
		AS	242824	246370	241495	15942854	70520.36	5.50	72713.79	453.97		
	INTERNATIONAL.....	S	375	367	364	46937	404.59		93.55			
	TOTAL.....	S	242425	246737	241859	15955578	70724.63	5.50	72801.09	453.97		
		NS	774			34213	200.32		6.25			
		AS	243199	246737	241859	15989791	70924.95	5.50	72807.34	453.97		
RHODE ISLAND.....	DOMESTIC.....	S	13981	14294	13942	942791	2166.87	.02	2758.70	.83		
		NS	40			2052						
		AS	14021	14294	13942	944843	2166.87	.02	2758.70	.83		
SOUTH CAROLINA	DOMESTIC.....	S	40049	40817	39721	1925562	3163.28		5678.51	.31		
		NS	69			3929	2.70					
		AS	40118	40817	39721	1929491	3165.98		5678.51	.31		
	INTERNATIONAL.....	S	1			97						
	TOTAL.....	S	40050	40817	39721	1925659	3163.28		5678.51	.31		
		NS	69			3929	2.70					
		AS	40119	40817	39721	1929588	3165.98		5678.51	.31		
SOUTH DAKOTA	DOMESTIC.....	S	11421	11600	11349	362520	1449.38		1723.12			
		NS	5			287						
		AS	11426	11600	11349	362807	1449.38		1723.12			
TENNESSEE.....	DOMESTIC.....	S	182752	185231	182227	8724027	589882.20	.04	31077.95	.22	.19	
		NS	149			5685	214.61		1.15			
		AS	182901	185231	182227	8729712	590096.81	.04	31079.10	.22	.19	
	INTERNATIONAL.....	S	1	1	1	52						
	TOTAL.....	S	182753	185232	182228	8724079	589882.20	.04	31077.95	.22	.19	
		NS	149			5685	214.61		1.15			
		AS	182902	185232	182228	8729764	590096.81	.04	31079.10	.22	.19	
TEXAS.....	DOMESTIC.....	S	562609	570487	561927	41231534	197436.72	724.54	113787.88	176.65		
		NS	1072			97082	221.60					
		AS	563681	570487	561927	41328616	197658.32	724.54	113787.88	176.65		
	INTERNATIONAL.....	S	11609	11644	11525	1327355	21351.72	23.19	1860.90	16.80	.19	
		NS	4									
		AS	11613	11644	11525	1327355	21351.72	23.19	1860.90	16.80	.19	
	TOTAL.....	S	574218	582131	573452	42558889	218788.44	747.73	115648.38	193.45	.19	
		NS	1076			97082	221.60					
		AS	575294	582131	573452	42659971	219010.04	747.73	115648.38	193.45	.19	
	DOMESTIC.....	S	75195	75747	75074	4726769	33528.23	12.82	16176.07	.06		
		NS	43			3166						
		AS	75238	75747	75074	4729937	33528.23	12.82	16176.07	.06		
UTAH.....	INTERNATIONAL.....	S	2									
		TOTAL.....	S	75197	75747	75074	4726769	33528.23	12.82	16176.07	.06	
			NS	43			3168					
		AS	75240	75747	75074	4729937	33528.23	12.82	16176.07	.06		

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES		SCHEDULED COMPLETED	ENPLANED PASSENGERS	ENPLANED REVENUE TONS				
			TOTAL PERFORMED	SCHEDULED			FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
					PRIORITY	NON-PRIORITY					
VERMONT	DOMESTIC.....	S	7249	7391	7240	375179	1471.99		1078.23		
		NS	7			150					
		AS	7256	7391	7240	375329	1471.99		1078.23		
VIRGINIA.....	DOMESTIC.....	S	66115	67731	65740	2775338	8816.64	.15	6877.11	.01	
		NS	61			1973					
		AS	66176	67731	65740	2777311	8816.64	.15	6877.11	.01	
	INTERNATIONAL.....	S	2								
	TOTAL.....	S	66117	67731	65740	2775338	8816.64	.15	6877.11	.01	
		NS	61			1973					
		AS	66178	67731	65740	2777311	8816.64	.15	6877.11	.01	
WASHINGTON.....	DOMESTIC.....	S	176532	179990	176010	7552974	182954.88	2.89	57291.01	197.23	22.05
		NS	296			18570	220.53		317.62		
		AS	176828	179990	176010	7571544	183175.41	2.89	57608.63	197.23	22.05
	INTERNATIONAL.....	S	1523	1523	1502	339828	6110.31		2744.37	54.06	41.91
		NS	9			1047	95.54				
		AS	1532	1523	1502	340875	6205.85		2744.37	54.06	41.91
	TOTAL.....	S	178055	181513	177512	7892802	189065.19	2.89	60035.38	251.29	63.96
		NS	305			19617	316.07		317.62		
		AS	178360	181513	177512	7912419	189381.26	2.89	60353.00	251.29	63.96
WEST VIRGINIA.....	DOMESTIC.....	S	12331	13130	12270	310517	905.50		323.72		
		NS	4								
		AS	12335	13130	12270	310517	905.50		323.72		
WISCONSIN	DOMESTIC.....	S	65747	67455	65351	2696062	12501.11	1.14	7865.49	1586.87	
		NS	168			8253					
		AS	65915	67455	65351	2704315	12501.11	1.14	7865.49	1586.87	
	INTERNATIONAL.....	S	2								
	TOTAL.....	S	65749	67455	65351	2696062	12501.11	1.14	7865.49	1586.87	
		NS	168			8253					
WYOMING	DOMESTIC.....	S	11861	12141	11803	205419	841.14		89.83		
		NS	3			94					
		AS	11864	12141	11803	205513	841.14		89.83		
TOTAL 50 STATES	DOMESTIC.....	S	6322607	6443489	6285010	412691287	4066719.78	1416.70	1483935.50	65152.40	155.38
		NS	16516			1098789	13297.23		1445.69		
		AS	6339123	6443489	6285010	413790076	4080017.01	1416.70	1485381.19	65152.40	155.38
	INTERNATIONAL.....	S	86058	86153	84704	13039487	457010.76	69.51	67330.20	7899.08	112.52
		NS	1240			108351	12258.85				
		AS	87298	86153	84704	13147838	469269.61	69.51	67330.20	7899.08	112.52
	TOTAL.....	S	6408665	6529642	6369714	425730774	4523730.54	1486.21	1551265.70	73051.48	267.90
		NS	17756			1207140	25556.08		1445.69		
		AS	6426421	6529642	6369714	426937914	4549286.62	1486.21	1552711.39	73051.48	267.90

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON- PRIORITY	
OTHER U.S. AREAS											
AMERICAN SAMOA.....	INTERNA- TIONAL.....	S	476	467	444	35601	154.58		78.99		
		NS	1			199					
		AS	477	467	444	35800	154.58		78.99		
CAROLINE ISLANDS	INTERNA- TIONAL.....	S	2082	1960	1938	65596	907.42	3.69	155.77		.46
GUAM.....	INTERNA- TIONAL.....	S	4271	3851	3798	467573	11788.25	101.02	1850.93	22.54	1.19
		NS	98			19490					
		AS	4369	3851	3798	487063	11788.25	101.02	1850.93	22.54	1.19
JOHNSTON ISLAND.....	INTERNA- TIONAL.....	S	248	252	246	231	4.07		7.75		
MARIANA ISLANDS	INTERNA- TIONAL.....	S	2644	2348	2308	164720	1069.96	2.40	77.62		
MARSHALL ISLANDS	INTERNA- TIONAL.....	S	742	744	737	13233	107.34	.39	107.41		
MIDWAY ISLAND.....	INTERNA- TIONAL.....	S	1								
PUERTO RICO.....	DOMESTIC.....	S	20157	20466	20078	2741816	49632.23		4424.98	731.90	
		NS	231			1414	6721.10				
		AS	20388	20466	20078	2743230	56353.33		4424.98	731.90	
	INTERNA- TIONAL.....	S	5144	5226	5122	522149	3968.36		67.43	.41	
		NS	1			255					
		AS	5145	5226	5122	522404	3968.36		67.43	.41	
	TOTAL.....	S	25301	25692	25200	3263965	53600.59		4492.41	732.31	
		NS	232			1669	6721.10				
		AS	25533	25692	25200	3265634	60321.69		4492.41	732.31	
ST CROIX, U.S. VIRGIN	DOMESTIC.....	S	5592	5629	5541	337021	481.79		353.32	74.92	
		NS	7			749					
		AS	5599	5629	5541	337770	481.79		353.32	74.92	
	INTERNA- TIONAL.....	S	1740	1743	1722	108172	553.77		134.88	52.60	
	TOTAL.....	S	7332	7372	7263	445193	1035.56		488.20	127.52	
		NS	7			749					
		AS	7339	7372	7263	445942	1035.56		488.20	127.52	
TOTAL U.S. AREAS	DOMESTIC.....	S	25749	26095	25619	3078837	50114.02		4778.30	806.82	
		NS	238			2163	6721.10				
		AS	25987	26095	25619	3081000	56835.12		4778.30	806.82	

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON- PRIORITY	
FOREIGN COUN-TRIES	INTERNA- TIONAL.....	S	17348	16591	16315	1377275	18553.75	107.50	2480.78	75.55	1.65
		NS	100			19944					
		AS	17448	16591	16315	1397219	18553.75	107.50	2480.78	75.55	1.65
	TOTAL.....	S	43097	42686	41934	4456112	68667.77	107.50	7259.08	882.37	1.65
		NS	338			22107	6721.10				
		AS	43435	42686	41934	4478219	75388.87	107.50	7259.08	882.37	1.65
ANTIGUA & BARBUDA.....	INTERNA- TIONAL.....	S	1488	1520	1484	81789	357.54		45.35	5.14	
		NS	6			491					
		AS	1494	1520	1484	82280	357.54		45.35	5.14	
ARGENTINA..	INTERNA- TIONAL.....	S	1368	1411	1356	141036	8620.18		49.23	6.20	14.56
		NS	1			256					
		AS	1369	1411	1356	141292	8620.18		49.23	6.20	14.56
ARUBA.....	INTERNA- TIONAL.....	S	1850	1868	1844	152101	250.73		24.59		
		NS	3			648					
		AS	1853	1868	1844	152749	250.73		24.59		
AUSTRALIA...	DOMESTIC.....	S	1	1	1		.20				
	INTERNA- TIONAL.....	S	2413	2417	2318	378969	22453.09	.15	177.07	.08	158.84
	TOTAL.....	S	2414	2418	2319	378969	22453.29	.15	177.07	.08	158.84
AUSTRIA.....	INTERNA- TIONAL.....	S	303	307	301	21237	392.00		7.85		
		NS	2			830					
		AS	305	307	301	22067	392.00		7.85		
BAHAMAS.....	DOMESTIC.....	S	1736	1748	1733	104762	26.15				
		NS	10			786					
		AS	1746	1748	1733	105548	26.15				
	INTERNA- TIONAL.....	S	5947	6074	5685	602364	283.50		1.10	1.02	
		NS	3			137					
		AS	5950	6074	5685	602501	283.50		1.10	1.02	
	TOTAL.....	S	7683	7822	7418	707126	309.65		1.10	1.02	
		NS	13			923					
		AS	7696	7822	7418	708049	309.65		1.10	1.02	
BAHRAIN.....	INTERNA- TIONAL.....	S	4								
BARBADOS.....	INTERNA- TIONAL.....	S	2939	2973	2936	182642	555.60		39.44	.02	2.92
		NS	1			87					
		AS	2940	2973	2936	182729	555.60		39.44	.02	2.92
BELGIUM.....	INTERNA- TIONAL.....	S	4819	4835	4796	92111	31805.00		302.56	128.92	11.85
		NS	35			261	1931.45				
		AS	4854	4835	4796	92372	33736.45		302.56	128.92	11.85
BERMUDA.....	DOMESTIC.....	S	4			100	5.21		.23		

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS				
			TOTAL PER-FORMED	SCHED-ULED	SCHED-ULED COMPLET-ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON-PRIORITY	
	INTERNA-TIONAL.....	S	3456	3490	3428	431378	368.51		246.52	.20	9.86
		NS	8			1051					
		AS	3464	3490	3428	432429	368.51		246.52	.20	9.86
	TOTAL.....	S	3460	3490	3428	431478	373.72		246.75	.20	9.86
		NS	8			1051					
		AS	3468	3490	3428	432529	373.72		246.75	.20	9.86
BOLIVIA.....	INTERNA-TIONAL.....	S	310	313	310	15531	60.07		3.14	24.09	
BRAZIL.....	INTERNA-TIONAL.....	S	2184	2200	2173	228682	48409.98		289.00	1.89	54.94
		NS	13			4005					
		AS	2197	2200	2173	232687	48409.98		289.00	1.89	54.94
BRITISH HONDU-RAS.....	INTERNA-TIONAL.....	S	486	479	476	13148	131.50		.25		
BRITISH WEST INDIES.....	DOMESTIC.....	S	812	816	809	38682	26.26		.16		
	INTERNA-TIONAL.....	S	876	847	837	52844	904.27		2.05	1.47	1.17
	TOTAL.....	S	1688	1663	1646	91526	930.53		2.21	1.47	1.17
CANADA.....	DOMESTIC.....	S	48334	48941	48301	3205152	14354.06		4957.59	261.86	
		NS	284			20507	88.70				
		AS	48618	48941	48301	3225659	14442.76		4957.59	261.86	
	INTERNA-TIONAL.....	S	37			202	1788.96		15.16	5.10	
	TOTAL.....	S	48371	48941	48301	3205354	16143.02		4972.75	266.96	
		NS	284			20507	88.70				
		AS	48655	48941	48301	3225861	16231.72		4972.75	266.96	
CHILE.....	INTERNA-TIONAL.....	S	561	573	557	67439	6082.59		17.79	.69	39.16
CHINA.....	INTERNA-TIONAL.....	S	427	441	422	38685	2065.89		.06		3.75
COLOMBIA.....	INTERNA-TIONAL.....	S	1909	1923	1892	101788	14688.81		50.87	8.72	
COOK ISLAND.....	INTERNA-TIONAL.....	S	69	70	67	3668	42.48		.40		
COSTA RICA.....	DOMESTIC.....	S	16	16	16		5.58				
	INTERNA-TIONAL.....	S	1048	1070	1041	78715	8783.91		9.11	11.20	
		NS	3			659					
		AS	1051	1070	1041	79374	8783.91		9.11	11.20	
	TOTAL.....	S	1064	1086	1057	78715	8789.49		9.11	11.20	
		NS	3			659					
		AS	1067	1086	1057	79374	8789.49		9.11	11.20	
CZECHO-SLOVAKIA.....	INTERNA-TIONAL.....	S	252	256	250	4675	6.07				

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS				
			TOTAL PER-FORMED	SCHED-ULED	SCHED-ULED COMPLET-ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON-PRIORITY	
DENMARK.....	INTERNA-TIONAL.....	S	1409	1445	1402	125571	1749.13		37.82	.31	6.41
		NS	1			398					
		AS	1410	1445	1402	125969	1749.13		37.82	.31	6.41
DOMINICAN REPUBLIC.....	DOMESTIC.....	S	1			298	10.76				
	INTERNA-TIONAL.....	S	4257	4293	4231	649991	15004.52		9.94	.28	6.89
		NS	2			170					
		AS	4259	4293	4231	650161	15004.52		9.94	.28	6.89
	TOTAL.....	S	4258	4293	4231	650289	15015.28		9.94	.28	6.89
		NS	2			170					
		AS	4260	4293	4231	650459	15015.28		9.94	.28	6.89
ECUADOR.....	INTERNA-TIONAL.....	S	1256	1276	1249	78073	2642.99		47.06	2.31	
		NS	1			148					
		AS	1257	1276	1249	78221	2642.99		47.06	2.31	
EGYPT.....	INTERNA-TIONAL.....	S	159	159	159	25819	790.54		65.00		.46
EL SALVA DOR.....	INTERNA-TIONAL.....	S	802	780	768	50901	872.58		82.86	.91	6.43
FIJI	INTERNA-TIONAL.....	S	55				4513.09		130.59	.90	
FINLAND	INTERNA-TIONAL.....	S	397	400	395	29893	173.97		70.30	.40	8.00
		NS	2			421					
		AS	399	400	395	30314	173.97		70.30	.40	8.00
FRANCE	DOMESTIC.....	S	1	1	1		.07				
	INTERNA-TIONAL.....	S	9075	9136	9032	820228	21093.44		692.26	134.06	495.84
		NS	4			1132					
		AS	9079	9136	9032	821360	21093.44		692.26	134.06	495.84
	TOTAL.....	S	9076	9137	9033	820228	21093.51		692.26	134.06	495.84
		NS	4			1132					
		AS	9080	9137	9033	821360	21093.51		692.26	134.06	495.84
FRENCH ANTILLES.....	INTERNA-TIONAL.....	S	247	245	245	10891	10.31		2.72	.17	
		NS	1			140					
		AS	248	245	245	11031	10.31		2.72	.17	
FRENCH POLYNESIA..	INTERNA-TIONAL.....	S	356	362	344	31324	42.64		1.84		1.33
		NS	2			176					
		AS	358	362	344	31500	42.64		1.84		1.33
GERMANY	INTERNA-TIONAL.....	S	48368	48904	47910	4159225	68751.49		10237.06	5411.87	11744.38
		NS	914			157861	1610.79				
		AS	49282	48904	47910	4317086	70362.28		10237.06	5411.87	11744.38

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS				
			TOTAL PER-FORMED	SCHED-ULED	SCHED-ULED COMPLET-ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON-PRIORITY	
GREECE	INTERNA-TIONAL.....	S	578	544	541	85106	1659.06		117.62	74.58	34.93
		NS	5			1046					
		AS	583	544	541	86152	1659.06		117.62	74.58	34.93
GUATE-MALA	DOMESTIC.....	S									1.12
	INTERNA-TIONAL	S	1685	1708	1681	130175	5562.77		54.02	31.83	6.27
	TOTAL.....	S	1685	1708	1681	130175	5562.77		54.02	31.83	7.35
HAITI.....	INTERNA-TIONAL.....	S	1444	1466	1432	180587	3106.93		51.13	.30	
HONDURAS.....	INTERNA-TIONAL.....	S	826	846	806	38809	284.59	.73	61.97	.30	
HONG KONG	INTERNA-TIONAL.....	S	3299	3383	3275	472288	103392.02		767.33	470.18	442.75
		NS	19			935	294.40				
		AS	3318	3383	3275	473223	103686.42		767.33	470.18	442.75
HUNGARY	INTERNA-TIONAL.....	S	362	361	351	6722	18.32		1.30		
		NS	2			483					
		AS	364	361	351	7205	18.32		1.30		
ICELAND	DOMESTIC.....	S	1	1	1	196					
	INTERNA-TIONAL.....	S	5				409.23		.01	.13	
	TOTAL.....	S	6	1	1	196	409.23		.01	.13	
INDIA	INTERNA-TIONAL.....	S	392	388	388	120190	5134.50		10.48		1.78
INDONESIA.....	INTERNA-TIONAL.....	S	1								
IRELAND	INTERNA-TIONAL.....	S	1200	1190	1179	79331	5514.83		110.43	138.63	.02
		NS	5								
		AS	1205	1190	1179	79331	5514.83		110.43	138.63	.02
ISRAEL	INTERNA-TIONAL.....	S	809	809	806	171438	2869.94		119.80	16.91	61.18
ITALY	INTERNA-TIONAL.....	S	2238	2258	2217	412554	16457.57		748.75	360.91	11.32
JAMAICA.....	DOMESTIC.....	S	253	254	251	12252	28.78		.02		
		NS	1			80					
		AS	254	254	251	12332	28.78		.02		
	INTERNA-TIONAL.....	S	2740	2775	2714	260488	3034.02		16.91	3.91	
		NS	1			78					
		AS	2741	2775	2714	260566	3034.02		16.91	3.91	
	TOTAL.....	S	2993	3029	2965	272740	3062.80		16.93	3.91	
		NS	2			158					
		AS	2995	3029	2965	272898	3062.80		16.93	3.91	

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
			TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON- PRIORITY	
JAPAN	INTERNA- TIONAL.....	S NS AS	19119 75 19194	19116 19116	18779 18779	3044514 3044514	336733.84 1444.60 338178.44		11824.86 11824.86	7234.42 7234.42	1187.37 1187.37
KENYA.....	INTERNA- TIONAL.....	S	133	136	133	15000	1489.12		14.60		.39
LUXEM- BOURG	INTERNA- TIONAL.....	S	1	1	1						
MALAYSIA	INTERNA- TIONAL.....	S	113	138	113		8395.44		8.30		
MEXICO.....	DOMESTIC.....	S	1001	1022	993	72322	11.64				
	INTERNA- TIONAL.....	S NS AS	16852 26 16878	16923 16923	16748 16748	1610039 3689 1613728	10447.32 3.74 10451.06	.36 .36	44.79 1000.00 1044.79	2.79 2.79	3.63 3.63
	TOTAL.....	S NS AS	17853 26 17879	17945 17945	17741 17741	1682361 3689 1686050	10458.96 3.74 10462.70	.36 .36	44.79 1000.00 1044.79	2.79 2.79	3.63 3.63
MOZAM- BIQUE.....	DOMESTIC.....	S	1	1	1		.10				
NETHER- LANDS.....	INTERNA- TIONAL.....	S NS AS	1219 5 1224	1221 1221	1202 1202	99243 421 99664	1464.61 61.80 1526.41		125.48 125.48	32.92 32.92	.26 .26
NETHER- LANDS ANTILLES.....	INTERNA- TIONAL.....	S NS AS	3196 5 3201	3221 3221	3135 3135	281176 156 281332	5444.00 5444.00		13.58 13.58	2.70 2.70	.60 .60
NEW ZEALAND.....	INTERNA- TIONAL.....	S	1580	1604	1565	275346	13601.76		76.75	.04	108.95
NORWAY.....	INTERNA- TIONAL.....	S	803	826	797	58242	356.56		26.61	.01	.51
OMAN.....	INTERNA- TIONAL.....	S	1				105.93		1.82		
PAKISTAN	INTERNA- TIONAL.....	S	153	166	153	14202	579.99		.18		.28
PANAMA	INTERNA- TIONAL.....	S NS AS	2001 2 2003	1948 1948	1887 1887	118262 118262	6662.12 6662.12		533.42 533.42	139.41 139.41	64.39 64.39
PAPUA NEW GUINEA.....	DOMESTIC.....	S	108	108	108		3.54				

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERVICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS				
			TOTAL PERFORMED	SCHEDULED	SCHEDULED COMPLETED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON-PRIORITY	
PARAGUAY	INTERNATIONAL	S	81	81	81	3051	17.33		1.87		
	TOTAL	S	189	189	189	3051	20.87		1.87		
	INTERNATIONAL	S	160	160	159	5574	49.92		14.13	12.01	
		NS	2			140					
		AS	162	160	159	5714	49.92		14.13	12.01	
PERU	INTERNATIONAL	S	879	878	860	78307	2963.18		6.02	33.99	
		NS	2								
		AS	881	878	860	78307	2963.18		6.02	33.99	
PHILIPPINES	INTERNATIONAL	S	1553	1572	1534	288416	15582.09		1447.27	1011.58	82.93
POLAND	INTERNATIONAL	S	401	401	399	36574	13.41				
PORTUGAL	INTERNATIONAL	S	274	269	264	45504	873.68		16.01	4.01	5.34
ROMANIA	INTERNATIONAL	S	104	106	103	4219	125.18		.09		
SAUDI ARABIA	INTERNATIONAL	S	204	209	199	7286	7.59		36.85	.21	
SEYCHELLES ISLANDS	DOMESTIC	S	2	2	2		1.70				
SINGAPORE	INTERNATIONAL	S	778	801	776	68683	26229.72		120.63	3.28	8.12
SOUTH KOREA	INTERNATIONAL	S	3291	3331	3263	418728	62061.55		1923.66	2265.24	3.42
		NS	11			1944					
		AS	3302	3331	3263	420672	62061.55		1923.66	2265.24	3.42
SPAIN	INTERNATIONAL	S	1505	1522	1498	210951	3259.29		368.27	263.12	7.53
SRI LANKA	INTERNATIONAL	S	6	17	6		295.96		.04		
SWEDEN	INTERNATIONAL	S	1471	1492	1466	113285	1316.97		54.13	.43	
		NS	1			45					
		AS	1472	1492	1466	113330	1316.97		54.13	.43	
SWITZERLAND	INTERNATIONAL	S	5164	5209	5128	285361	13790.90		964.44	16.15	27.00
		NS	59			7030					
		AS	5223	5209	5128	292391	13790.90		964.44	16.15	27.00
TAIWAN	INTERNATIONAL	S	2589	2490	2434	239199	123615.36		1304.21	274.81	834.54
		NS	14			402.20					
		AS	2603	2490	2434	239199	124017.56		1304.21	274.81	834.54

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS				
			TOTAL PER-FORMED	SCHED-ULED	SCHED-ULED COMPLET-ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON-PRIORITY	
TANZANIA.....	DOMESTIC.....	S	5	6	5	2	1.03				
THAILAND.....	INTERNA-TIONAL.....	S	743	743	729	127737	24269.22		263.10	65.70	73.41
TONGA	INTERNA-TIONAL.....	S	80	78	78	4990	74.16		18.64		
TRINIDAD & TOBAGO.....	INTERNA-TIONAL.....	S	1523	1566	1552	98399	1250.21		5.95		.01
TURKEY	INTERNA-TIONAL.....	S	433	434	430	35500	186.03		150.99	2.21	.07
		NS	139			19115					
		AS	572	434	430	54615	186.03		150.99	2.21	.07
UNITED ARAB EMIRATES.....	INTERNA-TIONAL.....	S	401	358	347		25012.56		166.65	9.30	
UNITED KINGDOM.....	INTERNA-TIONAL.....	S	15559	15696	15434	2463824	106762.54		7408.89	1141.85	712.85
		NS	14			1110	127.45		1.65		
		AS	15573	15696	15434	2464934	106889.99		7410.54	1141.85	712.85
URUGUAY.....	INTERNA-TIONAL.....	S	109	105	104	10752	521.48		.93		16.01
U S S R.....	INTERNA-TIONAL.....	S	352	337	332	24715	48.90		3.65		
		NS	3			602					
		AS	355	337	332	25317	48.90		3.65		
VENEZUELA	DOMESTIC.....	S	3	3	3		2.40				
	INTERNA-TIONAL.....	S	1981	1987	1974	188742	8280.64		28.24	4.69	13.58
		NS	2								
		AS	1983	1987	1974	188742	8280.64		28.24	4.69	13.58
	TOTAL.....	S	1984	1990	1977	188742	8283.04		28.24	4.69	13.58
		NS	2								
AS	1986	1990	1977	188742	8283.04		28.24	4.69	13.58		
WESTERN SAMOA.....	INTERNA-TIONAL.....	S	146	136	131	8986	152.05		7.22		
YUGO-SLAVIA.....	INTERNA-TIONAL.....	S	924	937	895	33438	146.13		.43		
		NS	29			2582					
		AS	953	937	895	36020	146.13		.43		
TOTAL FOR ALL COUNTRIES	DOMESTIC.....	S	52279	52920	52225	3433766	14477.48		4958.00	261.86	112
		NS	295			21373	88.70				
		AS	52574	52920	52225	3455139	14566.18		4958.00	261.86	112

TABLE 4.7—Continued

SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION, BY TYPE OF SERVICE, AND BY STATE AND COUNTRY 12 MONTHS ENDED DECEMBER 31, 1988

STATE OR COUNTRY	OPERATION	SERV-ICE	AIRCRAFT DEPARTURES			EN-PLANED PASSENGERS	ENPLANED REVENUE TONS				
			TOTAL PER-FORMED	SCHED-ULED	SCHED-ULED COMPLET-ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
									PRIORITY	NON-PRIORITY	
OVER-ALL TOTAL FOR ALL STATES, AREAS, AND COUNTRIES	INTERNA-TIONAL.....	S	200592	202010	197987	20946853	1213325.90	1.24	41701.44	19364.50	16276.23
		NS	1423			208247	5876.43		1001.65		
		AS	202015	202010	197987	21155100	1219202.33	1.24	42703.09	19364.50	16276.23
	TOTAL.....	S	252871	254930	250212	24380619	1227803.38	1.24	46659.44	19626.36	16277.35
		NS	1718			229620	5965.13		1001.65		
		AS	254589	254930	250212	24610239	1233768.51	1.24	47661.09	19626.36	16277.35
	DOMESTIC.....	S	6400635	6522504	6362854	419203890	4131311.28	1416.70	1493671.80	66221.08	156.50
		NS	17049			1122325	20107.03		1445.69		
		AS	6417684	6522504	6362854	420726215	4151418.31	1416.70	1495117.49	66221.08	156.50
	INTERNA-TIONAL.....	S	303998	304754	299006	35363615	1688890.41	178.25	111512.42	27339.13	16390.40
		NS	2763			336542	18135.28		1001.65		
		AS	306761	304754	299006	35700157	1707025.69	178.25	112514.07	27339.13	16390.40
	TOTAL.....	S	6704633	6827258	6661860	454567505	5820201.69	1594.95	1605184.22	93560.21	16546.90
		NS	19812			1458867	38242.31		2447.34		
		AS	6724445	6827258	6661860	456026372	5858444.00	1594.95	1607631.56	93560.21	16546.90

Note: S = Scheduled
 NS = Nonscheduled
 AS = All Service

TABLE 4.8.

AIRCRAFT DEPARTURES, ENPLANED PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT LARGE AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
ATLANTA, GEORGIA (WILLIAM B HARTSFIELD INTL).....	5.06	275847	280871	274822	21824125	142790.38	.52	113653.12	136.47	
BALTIMORE, MARYLAND (BALTO/WASH INTL).....	1.01	72109	72887	71574	4369596	15383.52	.77	19390.30	79.11	
BOSTON, MASSACHUSETTS (LOGAN INTERNATIONAL)...	2.35	115180	116271	113167	10141298	117906.01	3.93	29338.64	898.78	29.29
CHARLOTTE, NORTH CAROLINA (DOUGLAS MUNI)...	1.53	105405	107194	104593	6619780	35988.51		16950.86	4.14	
CHICAGO, ILLINOIS (MIDWAY).....	0.74	57631	59148	57504	3174057	165.63		10.59		
(OHARE INTERNATIONAL)...	6.16	323918	332643	322923	26596800	312097.24	45.53	143471.46	1188.13	7.08
COMMUNITY TOTAL	6.90	381549	391791	380427	29770857	312262.92	45.53	143482.05	1188.13	7.08
DALLAS-FORT WORTH, TEXAS (LOVE FIELD).....	0.57	37580	38162	37545	2474828	5.43				
(DALLAS- FT. WORTH REGIONAL).....	4.87	241899	244331	240999	21014158	136225.33	9.62	75322.18	182.51	
(ADDISON).....	0.00	1	1	1						
COMMUNITY TOTAL	5.44	279390	262494	278545	23488986	136230.76	9.62	75322.18	182.51	
DENVER, COLORADO (STAPLETON INTERNATIONAL)...	3.35	187548	190372	186773	14441817	72062.38	7.11	54993.73	8.49	
DETROIT & ANN ARBOR, MICHIGAN (DETROIT CITY).....	0.03	2064	2124	2064	130057					
(DETROIT METROPOLITAN WAYNE CTY).....	2.14	126318	129412	125778	9213713	36820.64	2.53	36936.31	23.67	6.52
(WILLOW RUN).....	0.00	5523	4546	4546		17951.80				
COMMUNITY TOTAL	2.17	133905	136082	132388	9343770	54772.44	2.53	36936.31	23.67	6.52
HONOLULU, OAHU, HAWAII (HONOLULU INTERNATIONAL)...	1.95	84075	88313	78959	8396313	172406.67	79.14	20379.86	539.46	9.03
HOUSTON, TEXAS (HOUSTON INTERCONTINEN- TAL).....	1.59	98023	99631	97516	6871886	50047.15	489.57	25465.53	10.54	.19
(WILLIAM P HOBBY).....	0.89	59648	60571	59481	3840383	2016.49	204.01	192.10	.03	
COMMUNITY TOTAL	2.48	157671	160202	156997	10712269	52063.64	693.58	25657.63	10.57	.19
KANSAS CITY, MISSOURI (INTERNATIONAL)...	1.04	67655	68170	66848	4469974	16342.12	65.21	19325.82	.45	
(KANSAS CITY MUNI).....	0.00	3	2	2	100	1.76				
COMMUNITY TOTAL	1.04	67658	68172	66850	4470074	16343.88	65.21	19325.82	.45	

TABLE 4.8.—Continued

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT LARGE AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
LAS VEGAS, NEVADA (MC CARRAN INTL).....	1.59	80431	80193	79443	6864803	7632.00	.81	6714.51	.42	
LOS ANGELES/ BURBNK/ LNG.BCH,CAL (HOLLYWOOD- BURBANK).....	0.34	26427	26963	26369	1457951	2361.45		1084.35		
(LONG BEACH)	0.13	10544	10714	10459	578640	1506.70		221.75		
(LOS ANGELES INTERNATIONAL)...	4.32	200423	203007	199246	18643319	334260.27	27.21	64134.27	421.82	5.22
(ORANGE COUNTY).....	0.50	33644	34737	33602	2156434	1197.59		15.64	.01	
(VAN NUYS AIRPORT).....	0.00	3	3	3		3.51				
COMMUNITY TOTAL	5.29	271041	275424	269679	22836344	339329.52	27.21	65456.01	421.83	5.22
MEMPHIS, TENNESSEE (MEMPHIS INTERNATIONAL)...	1.05	103759	105176	103499	4532572	579165.05		20649.30		.18
MIAMI/FT LAUDERDALE, FLORIDA (FT. LAUDERDALE- HOLLYWOOD INTL).....	0.90	45833	45937	45179	3899039	29188.10	.35	7224.70	3.92	
(MIAMI INTERNATIONAL)...	2.19	99787	100429	98194	9461760	149309.21	4.04	25591.41	922.57	5.58
(OPA LOCKA).....	0.00	2	1	1	80					
COMMUNITY TOTAL	3.10	145622	146367	143374	13360879	178497.31	4.39	32816.11	926.49	5.58
MINNEAPOLIS/ST. PAUL,MINNESOTA (MINNEAPOLIS-ST PAUL INTL).....	1.89	109735	112095	109001	8170952	56160.79	2.66	42144.74	32.59	12.28
NEWARK, NEW JERSEY (NEWARK).....	2.51	140123	143097	138781	10837963	138205.17	46.11	32918.87	702.33	
NEW YORK, NEW YORK (JOHN F KENNEDY INTL).....	2.47	79515	80516	78764	10660421	219483.04		62157.22	5910.34	39.72
(LA GUARDIA).....	2.62	129575	130302	126811	11321800	21186.93	12.58	39334.57	618.49	
(WORLD TRADE CENTER).....	0.00	108	108	108		3.21				
COMMUNITY TOTAL	5.10	209198	210926	205683	21982221	240673.18	12.58	101491.79	6528.83	39.72
ORLANDO, FLORIDA (HERNDON)	0.00	2	2	2		2.02				
(ORLANDO INTERNATIONAL)...	1.73	94562	95092	93366	7473086	35480.74	5.04	12173.46	2.77	.01
COMMUNITY TOTAL	1.73	94564	95094	93368	7473086	35482.76	5.04	12173.46	2.77	.01
PHILADELPHIA,PA/ CAMDEN,NJ (INTERNATIONAL)...	1.54	93318	95132	92722	6633677	45019.46	4.47	47263.35	187.50	
PHOENIX, ARIZONA (PHOENIX SKY HARBOR INTL).....	2.19	132910	133622	132415	9455324	32504.39	.57	16270.50	.01	

TABLE 4.8.—Continued

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT LARGE AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
<i>PITTSBURGH,PA/ WHEELING W VA (ALLEGHENY COUNTY).....</i>	0.00	1	1	1		1.30				
<i>(GREATER PITTSBURGH).....</i>	1.94	126194	127416	125586	8378639	16369.61	1.03	25294.30	264.56	
COMMUNITY TOTAL	1.94	126195	127417	125587	8378639	16370.91	1.03	25294.30	264.56	
<i>ST. LOUIS, MISSOURI (LAMBERT-ST LOUIS MUNI).....</i>	2.21	140307	142721	139467	9554454	46452.29	48.95	56108.88	33.97	
<i>SALT LAKE CITY, UTAH (SALT LAKE CITY INTL).....</i>	1.10	74929	75436	74763	4729937	33471.03	12.82	16176.07	.06	
<i>SAN DIEGO, CALIFORNIA (SAN DIEGO INTNL- LINDBERGH FLD) ...</i>	1.20	68233	69128	67991	5180587	18230.72	176.10	7685.29	1.65	
<i>SAN FRANCISCO/ OAKLAND, CAL (BUCHANAN FIELD).....</i>	0.01	1288	1334	1288	59013	23.78		25.49		
<i>(OAKLAND METROPOLITAN INTL).....</i>	0.42	35682	36339	35687	1825623	63413.83	.63	5054.94	.59	
<i>(SAN FRANCISCO INTL).....</i>	3.09	162316	165282	161761	13347979	196429.80	16.61	47359.76	2312.48	10.48
COMMUNITY TOTAL	3.53	199286	202955	198736	15232615	259867.41	17.24	52440.19	2313.07	10.48
<i>SEATTLE/TACOMA, WASHINGTON (BOEING FIELD INTL.).....</i>	0.00	1838	1835	1834	418	13588.65		.33	.17	
<i>(SEATTLE- TACOMA INTERNATIONAL)...</i>	1.58	108016	109539	107327	6825513	142338.83	2.89	46716.20	251.12	63.96
<i>(TACOMA INDUSTRIAL).....</i>	0.00	2	2	2		.40				
<i>(MCCHORD AFB)</i>	0.00	2	2	2		.30				
COMMUNITY TOTAL	1.58	109858	111378	109165	6825931	155928.18	2.89	46716.53	251.29	63.96
<i>TAMPA&ST.PTSBG/ CLWTR&LKLND,FLA (TAMPA INTERNATIONAL)...</i>	1.04	64852	65637	64412	4495349	19685.14	.74	14857.66	2.21	
<i>(ST. PETERSBURG/ CLWTR INTL).....</i>	0.01	970	1006	969	43294	9.85		.31	.77	
COMMUNITY TOTAL	1.05	65822	66643	65381	4538643	19694.99	.74	14857.97	2.98	
<i>WASHINGTON, DIST. OF COL (DULLES INTERNATIONAL)...</i>	1.00	79477	82038	79115	4327179	54496.96	.47	24045.35	404.86	
<i>(WASHINGTON NATIONAL)</i>	1.68	96470	98065	95210	7259448	9018.94	15.04	32050.11	381.88	.02
COMMUNITY TOTAL	2.69	175947	180103	174325	11586627	63515.90	15.51	56095.46	786.74	.02
<i>OVER-ALL TOTAL, LARGE HUBS</i>	74.58	4201615	4267556	4168475	321754139	3394412.17	1287.06	1208704.43	15528.87	189.56

TABLE 4.9.

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U. S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
ALBUQUERQUE, NEW MEXICO (ALBUQUERQUE SUNPRT/KIRTLND AFB).....	0.49	34074	34345	33913	2113308	5213.14	.07	4547.32	5.48	
AUSTIN, TEXAS (ROBERT MUELLER MUNI).....	0.45	31294	31593	31227	1922447	8098.17	.45	3815.54	.37	
BUFFALO&NIAGARA FALLS,NEW YORK (GREATER BUFFALO INTERNATIONAL) ...	0.41	31390	31721	31039	1780070	4964.00	.91	4291.65	.13	
(NIAGARA FALLS INTERNATIONAL) ...	0.00	1								
COMMUNITY TOTAL	0.41	31391	31721	31039	1780070	4964.00	.91	4291.65	.13	
CINCINNATI, OHIO (GREATER CINCINNATI)	0.82	64686	65419	64487	3542865	15487.00	.04	17722.95	14.16	.09
(LUKEN FIELD)	0.00	1	1	1		1.30				
COMMUNITY TOTAL	0.82	64687	65420	64488	3542865	15488.30	.04	17722.95	14.16	.09
CLEVELAND, OHIO (HOPKINS INTERNATIONAL) ...	0.82	68703	69591	67956	3547258	18812.00	1.20	9638.24	.07	
COLUMBUS, OHIO (PORT COLUMBUS INTERNATIONAL) ...	0.41	30337	30853	30164	1758894	1637.33	.03	8944.48		
(LOCKBOURN AFB) ..	0.00	5007	5136	4884		127052.16		5387.11	426.65	
COMMUNITY TOTAL	0.41	35344	35989	35048	1758894	128689.49	.03	14331.59	426.65	
DAYTON, OHIO (JAMES M COX DAYTON MUNI)	0.50	37555	38086	37477	2140470	17848.43		5689.79		.01
EL PASO, TEXAS (EL PASO INTERNATIONAL) ...	0.33	25167	25302	25109	1427258	4333.68	4.03	1346.66		
FT. MYERS, FLA. (SOUTHWEST)	0.34	20498	20751	20366	1460146	1235.24	.02	1951.75	.49	
HARTFD,CON/ SPGFLD& WESTFLD,MASS (BRADLEY INTL)	0.54	32590	33097	32417	2321986	9807.08	.40	15621.85	8.78	
INDIANAPOLIS, INDIANA (INDIANAPOLIS MUNI/WEIR- COOK/)	0.56	43503	43067	42361	2405638	13545.03		9910.44	4.58	
JACKSONVILLE, FLORIDA (JACKSONVILLE INTERNATIONAL) ...	0.30	25540	25918	25399	1287939	5486.49	.24	5819.06		
KAHULUI, MAUI, HAWAII (KAHULUI)	0.47	30440	32988	28292	2025671	6567.63		1441.88	129.74	
LIHUE, KAUAI, HAWAII (LIHUE)	0.29	17624	19413	16445	1264461	1419.36		675.82	6.19	

TABLE 4.9.—Continued

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
MILWAUKEE, WISCONSIN (GENERAL MITCHELL FIELD) ..	0.41	34741	35446	34428	1779140	7960.75	1.14	6821.49	1362.87	
NASHVILLE, TENNESSEE (METROPOLITAN)....	0.75	58617	59298	58376	3244014	5362.26	.04	7547.78	.22	
NEW ORLEANS, LOUISIANA (INTERNATIONAL/ MOISANT FIELD)	0.74	44388	44913	44163	3199970	17742.06	.14	8068.07		
(LAKEFRONT)	0.00	2	1	1	86					
COMMUNITY TOTAL	0.74	44390	44914	44164	3200056	17742.06	.14	8068.07		
NORFLK/VA BCH/ PTSMH/ CHESPKE,VA (NORFOLK REGIONAL)	0.35	29001	29412	28801	1491928	4612.27	15	2777.67	.01	
OKLAHOMA CITY, OKLAHOMA (WILL ROGERS WORLD)	0.35	27671	28027	27520	1492526	7894.13	3.76	4336.76	.12	
ONTARIO/SAN BERNARD/ RIVERSE,CA (ONTARIO INTERNATIONAL) ...	0.55	37941	38408	37777	2353959	8067.20	2.08	8810.91	.04	
PORTLAND, OREGON (PORTLAND INTERNATIONAL)....	0.65	68037	69102	67757	2823311	82530.11	.19	16526.79	1.62	.02
RALEIGH/DURHAM, NORTH CAROLINA (RALEIGH- DURHAM)	0.82	63360	64588	63103	3517525	15292.83		7603.22	2.05	
RENO, NEVADA (RENO INTL)	0.34	21982	22289	21913	1452057	4212.31		1477.85	.03	
ROCHESTER, NEW YORK (ROCHESTER- MONROE COUNTY) ..	0.29	26156	26532	26020	1241528	9707.78		3343.01	.04	
SACRAMENTO, CALIFORNIA (SACRAMENTO METROPOLITAN)	0.42	37074	38061	37010	1792347	3516.59		8050.73	.25	
SAN ANTONIO, TEXAS (SAN ANTONIO INTERNATIONAL) ...	0.55	36535	36837	36438	2392332	8160.22	4.61	8050.52		
SAN JOSE, CALIFORNIA (PALO ALTO MUNICIPAL)	0.00	1	1	1		.20				
(SAN JOSE MUNI)	0.64	51559	52696	51507	2774444	17457.85	98.68	2993.18	.28	
COMMUNITY TOTAL	0.64	51560	52697	51508	2774444	17458.05	98.68	2993.18	.28	
SAN JUAN, PUERTO RICO (LUIS MUNOZ MARIN INTL)	0.76	24987	25146	24654	3263722	57393.22		4492.41	732.31	

TABLE 4.9.—Continued

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
SYRACUSE, NEW YORK (CLARENCE E HANCOCK).....	0.34	38325	38999	38152	1473759	12651.59	.02	4307.90	.07	
TUCSON, ARIZONA (TUCSON INTL).....	0.33	20315	20440	20220	1407026	3294.22	1.39	3513.41	.36	
TULSA, OKLAHOMA (TULSA INTL).....	0.32	26877	27162	26726	1362402	7445.30	.28	4769.36	.25	1.12
WEST PALM BEACH/ PALM BEACH,FLA (PALM BEACH INTERNATIONAL)...	0.55	28215	28618	28113	2360993	1660.48	3.15	2646.06		
OVER-ALL TOTAL, MEDIUM HUBS.....	15.86	1174198	1193257	1164217	68421480	516469.41	123.02	201241.67	2697.16	1.24

TABLE 4.10.

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
AKRON/CANTON, OHIO (AKRON-CANTON).....	0.06	5398	5368	5194	262186	94.61		875.70		
ALBANY, NEW YORK (ALBANY COUNTY)...	0.19	13883	14131	13834	817167	1490.23		2817.62	.03	
ALLENTOWN/ BETHLEHEM/ EASTON, PA (ALLENTOWN- BETHLEHEM- EASTON).....	0.07	6583	6791	6560	295168	1612.15		44.79	1.80	
AMARILLO/BORGER, TEXAS (AMARILLO AIR TERMINAL)	0.10	7825	7928	7800	433360	237.66		690.87		
ANCHORAGE, ALASKA (ANCHORAGE INTERNATIONAL).....	0.24	30246	29470	28330	1052204	407145.60		17811.83	47065.72	77.09
(ELMENDORF AFB)...	0.00	87			4166	827.25		3.01	1.69	
COMMUNITY TOTAL	0.24	30333	29470	28330	1056370	407972.85		17814.84	47067.41	77.09
BATON ROUGE, LOUISIANA (RYAN).....	0.09	8968	9108	8925	388419	637.75	.14	816.10		
BILLINGS, MONTANA (LOGAN FIELD).....	0.06	7642	7748	7623	237599	1040.75	.16	1608.59		
BIRMINGHAM, ALABAMA (BIRMINGHAM MUNI).....	0.23	21011	21323	20883	983167	7034.20	1.53	4062.99		
BOISE, IDAHO (BOISE AIR TERMINAL/GOWEN FLD)	0.12	18013	18410	17970	525916	24572.82		13487.12		
BROWNSVILLE/ HRLGN/SAN BNTG, TEX (HARLINGEN INDUSTRIAL AIRPARK).....	0.12	7259	7348	7254	509708	2192.57	9.82	9.26		
(RIO GRANDE VALLEY INTL.).....	0.00	4	4	4		1.95				
COMMUNITY TOTAL	0.12	7263	7352	7258	509708	2194.52	9.82	9.26		
BURLINGTON, VERMONT (BURLINGTON INTERNATIONAL)	0.09	7256	7391	7240	375329	1471.99		1078.23		
CEDAR RAPIDS/IOWA CITY, IOWA (CEDAR RAPIDS MUNI).....	0.08	8224	8317	8158	327041	5778.58		124.85		
CHARLESTON, SOUTH CAROLINA (CHARLESTON AFB/MUNI)	0.15	15024	15248	14880	662398	1541.25		1247.56	11	
CHARLESTON/ DUNBAR, W. VIRGINIA										

TABLE 4.10.—Continued

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
(KANAWHA).....	0.05	6721	6883	6685	223401	476.09		217.48		
CHARLOTTE AMALIE ST. THOMAS, VI (HARRY S. TRUMAN) ..	0.08	4033	4071	4010	328524	323.81		305.31	126.72	
CHATTANOOGA, TENNESSEE (LOVELL FIELD).....	0.06	5297	5351	5229	259032	632.56		447.11		
COLORADO SPRINGS, COLORADO (PETERSON FIELD)...	0.15	12640	12850	12503	641126	437.44		146.78		
COLUMBIA, SOUTH CAROLINA (COLUMBIA METROPOLITAN).....	0.12	11224	11458	11114	531224	945.71		2270.67	.11	
CORPUS CHRISTI, TEXAS (CORPUS CHRISTI INTERNATIONAL).....	0.09	5803	5898	5782	394395	228.28	5.83	526.59		
DAYTONA BEACH, FLORIDA (DAYTONA BEACH REGIONAL)	0.10	7864	7958	7829	433958	474.56		92.52	.08	
DES MOINES, IOWA (DES MOINES MUNI).....	0.16	15582	15759	15484	708471	1294.64		8224.84	.15	
EUGENE, OREGON (MAHLON SWEET FIELD).....	0.05	9297	9602	9291	227646	3112.77		2195.50		
FORT WAYNE, INDIANA (MUNICIPAL/BAER FIELD).....	0.06	8497	8874	8440	259287	1099.40		476.64		
FRESNO, CALIFORNIA (FRESNO AIR TERMINAL).....	0.08	16763	17211	16725	342167	798.28		971.12	30.50	
GRAND RAPIDS, MICHIGAN (KENT COUNTY).....	0.14	11556	11748	11464	596869	3120.13		1744.94		
GREENSBORO/HIGH PT/WINSTN, N.C. (GREENSBORO- HIGH PT-WINSTN REG.)	0.23	23824	24229	23542	993682	9737.69		3865.93		
GREENVILLE & SPARTANBURG, S.C. (GREENVILLE- SPARTANBURG).....	0.11	9814	9982	9680	506508	501.98		2152.94	.09	
GUAM, GUAM (AGANA FIELD)	0.11	4369	3851	3798	487063	11788.25	101.02	1850.93	22.54	1.19
HARRISBURG/YORK, PA. (HARRISBURG INTERNATIONAL).....	0.10	9612	9780	9545	420741	6232.51		176.42		
HILO, HAWAII, HAWAII										

TABLE 4.10.—Continued

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
(GENERAL LYMAN FIELD).....	0.13	9587	8963	8492	552553	15055.00		1109.89	.57	
HUNTSVILLE, ALABAMA (MADISON COUNTY)	0.08	7357	7462	7303	355930	323.88		454.76	.08	
INDIO/PALM SPRINGS, CALIFORNIA (PALM SPRINGS MUNI).....	0.07	6470	6694	6457	300029	145.13		19.42		
ISLIP, LONG ISLAND, NEW YORK (LONG ISLAND- MACARTHUR)	0.12	8540	8818	8533	512797	302.58		2253.21		
JACKSON-VICKSBURG, MISS. (ALLEN C THOMPSON FIELD) ...	0.10	9908	10039	9882	424902	414.80		1854.87		
KAILUA-KONA, HAWAII, HAWAII (KE-AHOLE)	0.19	13475	13067	12236	836685	6002.60		761.14		
KNOXVILLE, TENNESSEE (MC GHEE TYSON)	0.12	11178	11300	11100	531790	4717.73		1604.66		.01
LEXINGTON/ FRANKFORT, KENTUCKY (BLUE GRASS)	0.08	10531	10669	10492	331667	457.36		1401.91		
LINCOLN, NEBRASKA (LINCOLN MUNI).....	0.05	5444	5482	5379	218908	154.92		15.81		
LITTLE ROCK, ARKANSAS (ADAMS FIELD).....	0.20	15368	15542	15317	879988	830.90		3491.65		
LOUISVILLE, KENTUCKY (STANDIFORD FIELD).....	0.23	26257	26651	26114	1013770	8935.12	.11	5284.28		
LUBBOCK, TEXAS (LUBBOCK REGIONAL)	0.14	11335	11435	11315	583243	5549.89		569.00		
MADISON, WISCONSIN (TRUAX FIELD)	0.09	9477	9713	9395	373288	2031.53		744.70	223.00	
MELBOURNE, FLORIDA (CAPE KENNEDY REGIONAL)	0.07	5969	6081	5939	291352	157.72		19.23	1.57	
MIDLAND/ODESSA, TEXAS (MIDLAND REGIONAL)	0.14	9930	9997	9911	602286	533.14		105.88		
MOBILE, AL/ PASCAGOULA, MISS (BATES FIELD).....	0.09	8969	9217	8935	373046	4384.86	.19	236.24	.15	
MOLINE, ILLINOIS/ DAVENPORT, IOWA (QUAD-CITY).....	0.06	8737	8954	8638	253130	257.03		50.45		

TABLE 4.10.—Continued

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
MYRTLE BEACH, SOUTH CAROLINA (GRAND STRIP).....	0.05	4053	4126	4044	229386	173.55		7.34		
OMAHA, NEBRASKA (EPPLEY AIRFIELD).....	0.24	21177	21289	20889	1051802	3765.45	3.75	10174.72	5.66	
PENSACOLA, FLORIDA (PENSACOLA REGIONAL).....	0.08	7274	7378	7231	362765	896.50	.05	1620.77		
PORTLAND, MAINE (PORTLAND INTERNATIONAL JETPORT).....	0.14	9403	9638	9386	612800	2508.86	9.03	1400.53		
PROVIDENCE, RHODE ISLAND (THEODORE FRANCIS GREEN STATE).....	0.22	14021	14294	13942	944843	2166.87	.02	2758.70	.83	
RICHMOND, VIRGINIA (RICHARD E BYRD FLYING FIELD).....	0.20	20514	20738	20363	850593	3992.39		3271.74		
ROANOKE, VIRGINIA (ROANOKE MUNI).....	0.06	7186	7454	7139	246062	118.49		823.79		
SAGINAW/BAY CITY/ MIDLAND, MICH. (TRI CITY).....	0.05	4041	4108	3984	222619	175.43		170.30		
SAN JOSE, BARBARA CALIFORNIA (SAN JOSE BARBARA).....	0.05	7103	7218	7100	217767	827.33				
(SAN JOSE MARIA PUBLIC).....	0.00	1204	1241	1172	4197	184.74				
COMMUNITY TOTAL	0.05	8307	8459	8272	221964	1012.07				
SARASOTA/ BRADENTON, FLORIDA (SARASOTA- BRADENTON).....	0.20	13384	13568	13317	842674	534.49	.05	14.30	.01	
SAVANNAH, GEORGIA (SAVANNAH MUNI).....	0.12	11710	12015	11648	531289	1030.24		453.28		
SHREVEPORT, LOUISIANA (GREATER SHREVEPORT MUNI).....	0.07	8257	8378	8229	285340	5491.77		1112.78		
SIOUX FALLS, SOUTH DAKOTA (JOE FOSS FIELD).....	0.05	6199	6307	6154	222704	914.89		1521.57		
SOUTH BEND, INDIANA (ST JOSEPH COUNTY).....	0.06	6942	7230	6889	244615	2324.55		20.35		
SPOKANE, WASHINGTON (SPOKANE INTERNATIONAL).....	0.17	25544	26122	25462	744014	21417.71		7753.19		
(FELTS FIELD).....	0.00	2	2	2		1.51				
COMMUNITY TOTAL	0.17	75546	26124	25464	744014	21419.22		7753.19		

TABLE 4.10.—Continued

AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS 12 MONTHS ENDED DECEMBER 31, 1988

COMMUNITY (AIRPORT NAME)	PERCENT OF ENPLANE- MENTS	AIRCRAFT DEPARTURES			EN- PLANED PASSEN- GERS	ENPLANED REVENUE TONS				
		TOTAL PER- FORMED	SCHED- ULED	SCHED- ULED COMPLET- ED		FREIGHT	EXPRESS	U.S. MAIL		FOREIGN MAIL
								PRIORITY	NON- PRIORITY	
TALLAHASSEE, FLORIDA (TALLAHASSEE MUNI)	0.09	9231	9355	9187	384805	1709.02		719.96	.15	
TOLEDO, OHIO (TOLEDO EXPRESS) ..	0.06	6078	6155	6034	243785	168.59		231.40		
WICHITA, KANSAS (WICHITA MUNI)	0.14	14077	14266	13977	602349	10649.03	25.44	2911.40		
OVER-ALL TOTAL, SMALL HUBS	7.30	696251	705056	667363	31507695	606189.11	157.14	125287.46	47481.56	78.29

TABLE 4.11

TOP 100 AIRPORTS IN RANK ORDER BY TOTAL ENPLANED PASSENGERS
LARGE SCHEDULED CERTIFICATED AIR CARRIERS SCHEDULED AND
NONSCHEDULED OPERATIONS 1988

RANK	AIRPORT	TOTAL ENPLANED PASSENGERS
1	Chicago (O'Hare), IL	26,596,800
2	Atlanta, GA	21,824,125
3	Dallas/Ft. Worth (Regional), TX	21,014,158
4	Los Angeles, CA	18,643,319
5	Denver, CO	14,441,817
6	San Francisco, CA	13,347,979
7	New York (La Guardia), NY	11,321,800
8	Newark, NJ	10,837,963
9	New York (John F. Kennedy), NY	10,660,421
10	Boston, MA	10,411,298
11	St. Louis, MO	9,554,454
12	Miami, FL	9,461,760
13	Phoenix, AZ	9,455,324
14	Detroit, MI	9,213,713
15	Honolulu, Oahu, HI	8,396,313
16	Pittsburgh, PA	8,378,639
17	Minneapolis/St. Paul, MN	8,170,952
18	Orlando, FL	7,473,086
19	Washington (National), DC	7,259,448
20	Houston (Intercontinental), TX	6,871,886
21	Las Vegas, NV	6,864,803
22	Seattle-Tacoma, WA	6,825,513
23	Philadelphia, PA	6,633,677
24	Charlotte, NC	6,619,780
25	San Diego, CA	5,180,587
26	Salt Lake City, UT	4,729,937
27	Memphis, TN	4,532,572
28	Tampa, FL	4,495,349
29	Kansas City, MO	4,469,974
30	Baltimore, MD	4,369,596
31	Washington (Dulles Int'l), DC	4,327,179
32	Ft. Lauderdale, FL	3,899,039
33	Houston (William P. Hobby), TX	3,840,383
34	Cleveland, OH	3,547,258
35	Cincinnati, OH	3,542,865
36	Raleigh/Durham, NC	3,517,525
37	San Juan, PR	3,263,722
38	Nashville, TN	3,244,014
39	New Orleans, LA	3,199,970
40	Chicago (Midway), IL	3,174,057
41	Portland, OR	2,823,311
42	San Jose, CA	2,774,444
43	Dallas (Love Field), TX	2,451,808
44	Indianapolis, IN	2,405,638
45	San Antonio, TX	2,392,332
46	West Palm Beach, FL	2,360,993
47	Ontario, CA	2,353,959
48	Hartford, CT	2,321,586
49	Orange County, CA	2,156,434
50	Dayton, OH	2,140,470
51	Albuquerque, NM	2,113,308
52	Kahului, Maui, HI	2,025,671
53	Austin, TX	1,922,447
54	Oakland, CA	1,825,623
55	Sacramento, CA	1,792,347
56	Buffalo, NY	1,780,070
57	Milwaukee, WI	1,779,140
58	Columbus, OH	1,758,804
59	Oklahoma City, OK	1,492,526
60	Norfolk, VA	1,491,928
61	Syracuse, NY	1,473,759
62	Ft. Myers, FL	1,460,146
63	Burbank, CA	1,457,951
64	Reno, NV	1,452,057
65	El Paso, TX	1,427,258
66	Tucson, AZ	1,407,026
67	Tulsa, OK	1,362,402
68	Jacksonville, FL	1,287,939
69	Lihue, Kauai, HI	1,264,461
70	Rochester, NY	1,241,528

TABLE 4.11—Continued

TOP 100 AIRPORTS IN RANK ORDER BY TOTAL ENPLANED PASSENGERS
LARGE SCHEDULED CERTIFICATED AIR CARRIERS SCHEDULED AND
NONSCHEDULED OPERATIONS 1988

RANK	AIRPORT	TOTAL ENPLANED PASSENGERS
71	Anchorage, AK	1,052,204
72	Omaha, NE	1,051,802
73	Louisville, KY	1,013,770
74	Greensboro, NC	993,682
75	Birmingham, AL	983,167
76	Providence, RI	944,843
77	Little Rock, AR	879,988
78	Richmond, VA	850,593
79	Sarasota, FL	842,674
80	Kailua-Kona, Hawaii, HI	836,685
81	Albany, NY	817,167
82	Spokane, WA	744,014
83	Des Moines, IA	708,471
84	Charleston, SC	662,398
85	Colorado Springs, CO	641,126
86	Portland, ME	612,800
87	Wichita, KS	602,349
88	Midland, TX	602,286
89	Grand Rapids, MI	596,869
90	Lubbock, TX	583,243
91	Long Beach, CA	578,640
92	Hilo, HI	552,553
93	Knoxville, TN	531,790
94	Savannah, GA	531,289
95	Columbia, SC	531,224
96	Boise, ID	525,916
97	Islip, NY	512,797
98	Brownsville, TX	509,708
99	Greenville, SC	506,508
100	Guam, Guam	487,063

V. U.S. CIVIL AIR CARRIER FLEET

U.S. air carrier fleet data shown in this chapter were developed from monthly Aircraft/Engine Utilization Reports submitted by air carrier operators. The aircraft population discussed here is not an inventory of the aircraft owned by the air carriers, but represents the aircraft reported in air carrier use during the last quarter of the year.

Prior to 1987, the fleet size was the number of aircraft reported in operation by the carriers in December. Some of the carriers do not report each month. To adjust for this undercount, beginning in 1987, the fleet size is the monthly average of the number of aircraft reported in operation for the last quarter of the year. For example, if the carrier reported for two months, the fleet count is the average for the two months. If the carrier did not report any aircraft in the last quarter, there is no fleet data for that carrier.

TABLE 5.1

TOTAL AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS BY TYPE OF AIRCRAFT 1979 - 1988

Year	Total	Fixed Wing					Total Rotary-Wing
		Total Fixed-Wing	Turbine			Piston	
			Total	Turbojet	Turboprop		
1979.....	3,609	3,608	3,052	2,486	566	547	1
1980.....	3,808	3,806	3,218	2,531	687	588	2
1981.....	3,973	3,969	3,363	2,511	852	603	4
1982.....	4,072	4,067	3,501	2,674	827	566	5
1983.....	4,203	4,194	3,643	2,767	876	551	9
1984.....	4,370	4,358	3,915	2,959	956	443	12
1985.....	4,678	4,673	4,240	3,164	1,076	433	5
1986.....	4,909	4,907	4,487	3,283	1,204	420	2
1987.....	5,253	5,240	4,819	3,575	1,244	421	13
1988.....	5,660	5,652	5,290	3,915	1,375	362	8

NOTE Beginning in 1987, the number of aircraft is the monthly average of the number of aircraft reported in use for the last three months of the year. Prior to 1987, it was the number of aircraft reported in use during December of the year.

Source Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.

TABLE 5.2

AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1979 - 1988

Aircraft Make and Model	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
TOTAL	5,660	5,253	4,909	4,678	4,370	4,204	4,702	3,970	3,808	3,609
Turbojet-4-engine—total	427	382	322	322	349	309	354	365	441	517
Boeing B707	31	31	35	27	22	24	55	66	146	175
Boeing B720	—	—	—	—	—	1	1	2	3	7
Boeing B747	171	156	150	151	156	146	144	147	144	131
British Aerospace Aircraft Groupe BAE146	57	57	25	29	14	3	—	—	—	—
Concorde	—	—	—	—	—	—	—	—	—	9
Convair CV22	—	—	—	—	—	2	2	2	1	—
Convair CV30	—	—	—	—	—	—	1	4	5	6
Douglas DC8	108	138	112	115	157	133	151	144	142	188
Lockheed L1329	—	—	—	—	—	—	—	—	—	1
Turbojet-3-engine—total	1,542	1,469	1,466	1,488	1,438	1,393	1,387	1,363	1,347	1,256
Boeing B727	1,246	1,168	1,172	1,195	1,161	1,122	1,110	1,096	1,092	1,029
Douglas DC10	184	185	180	179	174	155	166	161	153	140
Lockheed L1011	112	116	114	114	103	116	111	106	102	87
Turbojet-2-engine—total	1,946	1,724	1,495	1,354	1,172	1,065	933	783	743	713
Airbus A300	57	52	52	46	38	34	30	25	19	12
Airbus A310	19	13	7	4	—	—	—	—	—	—
Boeing B737	706	633	555	476	391	348	290	236	220	206
Boeing B757	122	95	73	48	19	15	2	—	—	—
Boeing B767	126	83	69	59	53	49	13	—	—	—
British Aircraft BAC111	30	39	45	32	33	36	36	27	27	28
Canadair CL600	—	—	—	—	—	—	1	—	—	—
Cessna C500/C501	—	—	—	2	1	1	2	1	5	4
Dassault MD10	—	—	—	—	2	—	—	—	—	—
Dassault MD20	—	—	—	2	9	12	23	27	42	44
Douglas DC9	837	760	643	641	594	557	509	447	394	381
Fokker F28	47	47	50	41	23	6	11	9	—	—
Grumman G1159	—	—	—	—	1	2	3	5	6	—
Hamberger Flugzeugbau HFB320	—	—	—	—	1	1	—	—	—	4
Hawker-Siddeley HS125	—	—	—	—	—	—	2	—	—	—
Israel Aircraft 1123	—	—	—	—	—	—	—	—	—	1
Israel Aircraft 1124	—	—	—	—	—	—	1	—	1	1
Learjet LR23	—	—	—	—	—	—	3	—	2	5
Learjet LR24	—	—	—	—	—	—	1	3	3	3
Learjet LR25	1	—	—	—	—	—	—	1	7	6
Learjet LR35	1	2	1	3	8	4	3	—	3	4
Learjet LR55	—	—	—	—	—	—	1	—	—	—
Rockwell International NA265	—	—	—	—	—	—	1	—	2	2
Sud Aviation E210	—	—	—	—	—	1	2	2	5	6
Sud Aviation SN601	—	—	—	—	—	—	—	2	3	—
Turboprop-4-engine—total	95	92	96	108	109	99	116	105	92	81
Canadair CL44	6	6	2	6	5	2	4	4	2	1
DeHavilland DHC7	39	41	40	42	46	46	43	29	18	8
Lockheed L188	30	34	33	38	34	37	47	51	52	52
Lockheed L382	20	21	21	22	22	11	19	20	20	20
Turboprop-2-engine—total	1,280	1,139	1,108	965	847	773	707	48	591	484
Beech BE65	1	4	1	—	—	—	—	—	—	—
Beech BE90	1	4	—	3	2	2	4	2	2	3
Beech BE99	84	52	95	103	85	101	108	102	87	85
Beech BE100	1	—	1	1	2	1	—	—	—	—
Beech BE200	7	5	2	1	6	4	2	2	1	4
Beech BE1900	80	48	60	42	17	—	—	—	—	—
Beech STC18	—	—	—	—	1	1	1	—	—	—
British Aerospace Aircraft Group Jetstream	135	113	69	46	10	10	12	12	15	16
Cessna C441	3	2	3	1	3	1	2	—	1	—
Construcciones Aeronauticas C212	18	16	19	24	27	28	16	15	21	—
Convair CV580/640/600	72	77	91	100	101	100	98	251	119	120
DeHavilland DHC6	63	71	68	86	107	112	101	96	107	78
DeHavilland DHC8	44	34	26	10	—	—	—	—	—	—
Dornier DO228	33	18	12	6	—	—	—	—	—	—
Douglas DC3	—	—	—	1	—	—	—	—	—	—
Embraer EM110	77	97	91	79	81	83	83	66	34	4
Embraer EM120	62	36	16	—	—	—	—	—	—	—
Fairchild FH27	7	13	20	28	23	19	10	8	6	6
Fairchild FH227	11	8	7	8	9	9	9	6	8	22
Fokker F27	33	26	36	27	14	7	4	2	4	—
GAF Nomad N22	—	—	—	—	—	—	2	3	9	—
Grumman G73	7	—	—	—	—	—	—	—	—	—
Grumman G159	5	14	15	23	21	16	19	17	16	15

TABLE 5.2—Continued

AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1979 - 1988

Aircraft Make and Model	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Grumman G500.....	1	—	—	—	—	—	—	—	—	—
Hawker-Siddeley HS748	—	—	—	—	2	5	5	2	2	1
Israel Aircraft.....	—	—	—	—	—	—	—	—	—	—
AR101B	—	—	—	—	—	—	3	2	—	—
Mitsubishi MU2.....	—	1	6	3	1	2	—	—	—	—
Nihon YS11	22	36	36	42	30	35	27	27	22	18
Nomad N24	—	—	—	—	—	—	—	—	—	1
Nord ND262	9	12	15	14	14	9	15	15	22	24
Piper 31T	9	6	5	4	8	6	1	1	—	—
Rockwell AC690.....	1	1	4	4	4	1	—	—	—	—
Saab-Fairchild SF340A	68	51	34	17	3	—	—	—	—	—
Short SC7	—	—	1	1	1	1	2	2	2	—
Short SD3	110	110	110	77	78	66	52	39	34	21
S.N.I.A.S. ATR42.....	35	20	8	—	—	—	—	—	—	—
Swearingen SA226.....	90	101	122	113	121	99	105	72	100	66
Swearingen SA227.....	191	163	135	101	70	55	26	4	—	—
Turboprop-1-engine—total.....	—	3	—	—	—	—	—	—	—	—
Cessna C208.....	—	3	—	—	—	—	—	—	—	—
Piston-4-engine—total.	36	38	32	38	50	52	58	68	73	58
DeHavilland DH114.....	—	—	—	—	6	11	17	21	27	7
Douglas DC4.....	—	—	1	3	3	3	3	6	5	4
Douglas DC6.....	35	37	30	34	41	38	38	41	41	46
Douglas DC7.....	1	1	1	1	—	—	—	—	—	—
Lockheed L1049	—	—	—	—	—	—	—	—	—	1
Piston-3-engine—total.....	3	3	3	4	4	2	—	—	—	1
Britten Norman MK3	3	3	3	4	4	2	—	—	—	1
Piston-2-engine—total.....	323	380	385	394	389	502	512	536	517	498
Aero Commander AC500	—	—	—	—	—	2	1	1	3	1
Aero Commander AC680	—	—	—	—	—	—	1	1	3	2
Beech BE18.....	6	5	9	7	15	20	14	20	13	26
Beech BE36.....	3	—	—	—	—	—	—	—	—	—
Beech BE55.....	—	2	1	—	—	1	2	2	2	3
Beech BE58.....	15	7	4	9	9	6	5	3	3	—
Beech BE65.....	2	2	3	—	—	3	2	4	1	2
Beech BE76.....	—	—	2	3	3	1	1	—	—	—
Beech BE80.....	—	—	—	4	8	—	—	—	2	1
Beech BE95.....	3	—	—	—	—	—	—	1	1	1
Beech BE99.....	—	—	—	—	—	1	—	—	—	—
Beech STC-18.....	—	—	—	—	—	—	—	—	5	—
Britten-Norman BN2A	30	29	29	7	27	29	33	35	31	10
Britten-Norman BN28	—	—	—	—	—	—	—	—	—	1
Cessna C207T	—	—	—	—	—	1	1	—	—	—
Cessna C303T.....	1	1	1	1	—	—	—	—	—	—
Cessna C310.....	—	1	1	1	2	3	4	5	7	11
Cessna C320.....	—	—	—	—	1	—	—	—	—	—
Cessna C337.....	—	—	—	—	—	—	—	—	—	2
Cessna C340.....	—	—	—	—	—	—	—	1	2	2
Cessna C401.....	4	—	—	—	—	—	2	—	2	—
Cessna C402.....	101	143	147	155	112	152	130	131	115	93
Cessna C404.....	4	4	6	5	4	8	22	17	20	17
Cessna C411.....	—	—	—	—	1	—	—	1	1	1
Cessna C414.....	—	—	2	1	1	1	—	3	1	2
Cessna C421.....	1	—	—	—	1	—	1	—	1	—
Convair CV240	9	10	9	12	15	10	11	12	4	3
Convair CV340/CV440.....	21	23	17	18	14	22	23	28	23	22
Curtiss-Wright C46.....	—	—	—	3	2	4	5	12	13	12
DeHavilland DHC4.....	—	—	—	—	—	—	—	1	1	—
DeHavilland DHC104	—	—	—	—	—	—	—	2	—	2
Dornier DO28.....	—	—	—	—	—	—	—	2	1	1
Douglas DC3.....	20	38	43	39	30	42	50	56	68	90
Fairchild C82.....	—	—	—	—	1	2	2	2	2	—
Grumman G21	—	—	—	3	4	3	3	1	6	1
Grumman G44	1	1	1	1	1	1	1	1	—	—
Grumman G73	4	12	11	3	5	9	9	2	4	—
Grumman G111.....	—	2	3	6	—	2	—	—	—	—
Martin M404.....	2	1	—	—	1	13	11	11	14	20
Partenavia PT68.....	—	2	—	—	—	—	—	—	—	—
Piper PA23.....	9	11	9	3	10	16	18	19	26	20
Piper PA28.....	—	—	—	—	—	7	—	—	—	—
Piper PA30.....	—	—	—	—	1	2	2	2	2	2

TABLE 5.2—Continued

AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1979 - 1988

Aircraft Make and Model	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Piper PA31.....	71	77	73	100	110	121	139	45	126	122
Piper PA32.....	2	2	—	—	—	—	—	—	—	—
Piper PA34.....	12	4	9	12	11	17	16	15	12	10
Piper PA44.....	1	1	1	1	1	1	1	1	1	1
Piper PA600.....	1	2	2	—	—	—	1	—	1	14
Piper PA1020T.....	—	—	2	—	—	—	—	—	—	—
Helicopters—total.....	8	13	2	5	12	9	5	4	2	1

NOTE. Beginning in 1987, the number of aircraft is the monthly average of the number of aircraft reported in use for the last three months of the year.
Prior to 1987, it was the number of aircraft reported in use during December of the year.

Source Air Carrier Aircraft Utilization and Propulsion Reliability Report, Aviation Standards National Field Office, Federal Aviation Administration.

TABLE 5.3

TOTAL FLIGHT HOURS FOR AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1979 - 1988

Aircraft Make and Model	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
TOTAL	12,284,541	11,886,280	11,221,587	10,498,546	9,674,406	8,555,580	6,916,349	8,124,998	8,221,961	7,550,657	
Turboprop-4-engine—total.....	1,093,392	997,951	921,409	817,058	861,389	816,624	728,412	957,880	1,223,377	1,505,863	
Boeing B707.....	43,946	36,706	37,448	15,904	39,243	64,819	83,515	153,877	359,112	539,189	
Boeing B720.....	—	—	—	—	136	438	317	438	1,124	18,310	
Boeing B747.....	620,127	575,426	559,137	537,954	537,142	504,573	439,003	531,035	529,314	482,550	
British Aerospace Aircraft Groupe BAE146.....	128,339	125,918	92,431	52,452	14,140	1,623	—	—	—	—	
Concorde.....	—	—	—	—	—	—	—	—	415	989	
Convair CV22.....	—	—	—	—	—	—	656	543	71	91	
Convair CV30.....	—	—	—	—	—	—	219	657	1,437	2,092	
Douglas DC8.....	300,780	260,401	232,393	210,748	270,728	245,171	204,702	271,330	331,417	462,053	
Lockheed L1329.....	—	—	—	—	—	—	—	—	487	589	
Turboprop-3-engine—total	3,705,084	3,865,525	3,960,406	3,843,357	3,786,832	3,278,501	2,971,583	3,531,243	3,693,218	3,519,847	
Boeing B727.....	2,780,240	2,930,107	3,036,233	2,989,848	2,990,821	2,529,074	2,289,310	2,769,906	2,949,274	2,870,552	
Douglas DC10.....	583,558	566,751	580,200	529,073	487,831	423,824	377,811	442,698	441,576	377,434	
Lockheed L1011.....	341,286	368,667	343,973	324,436	308,180	325,603	304,462	318,639	302,568	272,061	
Turboprop-2-engine—total	4,951,466	4,575,179	4,057,267	3,568,486	2,872,265	2,494,072	1,751,513	1,817,081	1,715,937	1,641,589	
Airbus A300.....	150,603	156,947	150,898	131,904	101,143	84,674	56,390	61,783	43,703	23,843	
Airbus A310.....	61,663	27,234	17,054	5,613	—	—	—	—	—	—	
Boeing B737.....	1,859,347	1,730,473	1,489,831	1,312,425	1,006,238	829,359	562,521	585,997	522,556	470,075	
Boeing B757.....	321,369	270,729	195,957	108,320	50,022	17,090	—	—	—	—	
Boeing B767.....	367,591	274,429	223,227	192,467	172,705	104,222	1,811	58,560	65,194	75,807	
British Aircraft BAC111.....	65,095	84,642	68,908	73,873	59,555	79,011	54,306	1,767	3,773	680	
Cessna C500/C501.....	—	54	50	546	657	652	423	—	—	—	
Dassault MD10.....	—	—	—	2,262	698	—	—	—	—	—	
Dassault MD20.....	—	—	—	4,336	3,218	11,097	18,303	31,559	33,823	47,796	
DeHavilland DHC125.....	—	—	—	—	—	—	—	—	—	198	
Douglas DC9.....	2,035,672	1,931,391	1,809,888	1,655,353	1,438,339	1,348,511	1,028,836	1,051,747	1,023,200	1,001,148	
Fokker F28.....	88,682	97,727	98,918	73,494	33,036	13,224	23,996	17,123	2,642	3,265	
Grumman G1159.....	47	—	—	334	660	309	1,308	2,392	2,774	2,563	
Hamberger Flugzeug-bau HFB320.....	—	—	—	—	102	734	304	—	—	—	
Hawker-Siddeley HS125.....	—	—	—	—	—	8	—	—	—	—	
Israel Aircraft 1121.....	—	—	—	—	—	—	—	—	39	318	
Israel Aircraft 1123.....	—	—	—	—	—	—	—	—	209	155	
Israel Aircraft 1124.....	—	—	—	—	—	—	—	—	1,228	631	
Learjet LR23.....	—	—	—	—	—	1,227	785	1,658	1,658	1,173	
Learjet LR24.....	—	—	—	—	—	537	436	476	1,160	1,173	
Learjet LR25.....	—	—	—	—	—	—	26	1,007	4,041	3,905	
Learjet LR35.....	44	—	—	—	—	—	688	697	1,700	4,031	
Learjet LR36.....	1,353	1,553	2,536	7,559	5,892	3,148	—	—	—	63	
Learjet LR55.....	—	—	—	—	—	—	—	—	—	—	
Rockwell International NA265.....	—	—	—	—	—	—	253	—	—	—	
Sud Aviation SE210.....	—	—	—	—	—	49	20	46	589	1,179	
Sud Aviation SN601.....	—	—	—	—	—	220	899	1,177	5,966	4,959	
Turboprop-4-engine—total	154,747	181,424	169,884	209,197	216,405	206,435	163,552	186,955	158,687	146,294	
Canadair CL44.....	8,427	9,355	8,687	9,147	7,567	6,066	5,303	4,617	2,155	465	
DeHavilland DHC7.....	76,027	91,899	73,524	98,315	106,287	103,528	5,303	64,698	31,472	8,905	
Lockheed L188.....	23,691	33,618	38,019	44,765	45,182	47,981	41,594	60,909	69,217	81,280	
Lockheed L382.....	46,602	46,552	49,654	56,597	56,165	47,877	42,250	56,615	55,843	55,644	
Vickers V745.....	—	—	—	373	1,204	983	912	116	—	—	
Vickers V814.....	—	—	—	—	—	—	424	—	—	—	
Turboprop-2-engine—total	2,118,066	1,943,532	1,720,179	1,616,425	1,487,032	1,288,516	935,588	1,127,794	948,180	511,966	
Beech BE65.....	—	596	639	—	—	—	—	—	—	—	
Beech BE90.....	374	303	158	360	443	626	479	709	537	459	
Beech BE99.....	125,247	141,691	175,543	199,736	199,205	183,534	137,968	164,467	171,475	45,309	
Beech BE100.....	769	803	259	806	202	13	—	—	255	—	

TABLE 5.3—Continued

TOTAL FLIGHT HOURS FOR AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1973 - 1988

Aircraft Make and Model	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Beech BE200.....	9,679	3,625	970	3,541	2,522	1,868	1,813	960	886	2,100
Beech BE1900.....	153,473	135,960	107,128	73,211	23,289	632	181	236	—	—
Beech STC18.....	—	—	902	—	648	—	—	—	—	—
British Aerospace Aircraft Group										
Jet Stream.....	252,253	188,315	108,723	60,492	27,712	18,485	16,222	25,836	25,982	9,141
Cessna C441.....	4,948	3,874	1,364	1,745	1,672	1,265	501	291	107	—
Construcciones Aeronauticas C212	23,610	21,643	19,891	24,886	34,252	33,902	21,870	109,613	637	675
Convair CV580/600/640.....	63,141	82,371	100,288	113,063	121,399	121,785	104,432	146,867	169,886	169,881
DeHavilland DHC6.....	113,810	122,783	113,958	162,340	176,233	169,980	139,042	170,458	167,282	59,679
DeHavilland DHC8.....	80,964	55,680	36,835	7,362	—	—	—	—	—	—
Dornier DO228.....	56,580	26,032	16,044	12,306	—	—	—	—	—	—
Douglas DC3.....	531	177,781	149,585	156,363	199,536	196,128	127,153	94,790	36,468	614
Embraer EM110.....	148,880	66,054	18,838	—	—	—	—	—	—	—
Embraer EM120.....	114,296	13,502	31,232	36,440	35,521	24,777	12,438	6,132	3,441	5,177
Fairchild FH27.....	9,821	13,502	31,232	36,440	35,521	24,777	12,438	6,132	3,441	5,177
Fairchild FH227.....	12,169	11,787	13,244	14,491	17,053	19,525	13,341	13,690	17,134	31,926
Fokker F27.....	50,445	59,910	61,144	40,521	25,056	13,151	6,047	3,675	5,196	—
GAF Nomad N22.....	10,036	—	—	—	—	69	3,628	10,432	5,546	—
Grumman G73.....	7,139	15,177	23,328	23,911	20,773	18,339	8,532	14,843	14,273	12,294
Grumman G159.....	92	—	—	—	—	—	—	—	—	—
Grumman G500.....	—	—	—	2,500	7,385	9,320	12,091	4,979	2,564	2,087
Hawker-Siddeley HS748.....	—	256	2,980	1,390	314	587	2,284	139	—	—
Israel Aircraft AR101B.....	17,645	38,093	46,268	53,707	48,246	43,260	25,610	35,737	37,280	43,798
Mitsubishi MU2.....	88	—	—	—	—	14	—	—	—	—
Nihon Y-11.....	1,907	23,313	24,860	20,604	20,820	22,446	14,630	21,986	44,857	50,644
Nomad N24.....	11,132	5,656	4,865	7,003	10,103	2,692	—	70	—	—
Nord ND262.....	8,232	476	3,057	3,076	2,683	22	—	—	—	—
Piper 31T.....	4	98,616	56,392	20,627	386	733	—	—	—	—
Rockwell AC690.....	152,177	217,177	184,680	178,862	150,714	123,385	79,909	1,008	489	—
Saab-Fairchild SF340A.....	183,422	7,943	5,923	—	—	—	520	77,708	66,606	27,671
Short SC7.....	60,029	163,994	185,243	217,667	218,716	194,324	169,688	223,059	177,240	50,436
S.N.I.A.S. ATR42.....	144,032	240,121	225,657	177,622	141,674	87,754	37,209	609	39	54
Swearingen SA226.....	300,940	—	—	—	—	—	—	—	—	—
Swearingen SA227.....	452	581	—	—	—	—	—	—	—	—
Turboprop-1-engine—total.....	452	581	—	—	—	—	—	—	—	—
Cessna C208.....	452	581	—	—	—	—	—	—	—	—
Piston-4-engine—total.....	25,083	24,367	24,909	30,854	29,215	33,616	35,782	64,951	70,295	45,007
DeHavilland DH114.....	—	—	—	2,626	7,847	16,835	22,598	42,702	39,110	—
Douglas DC4.....	—	—	1,038	1,512	720	1,187	256	1,304	3,150	5,934
Douglas DC6.....	24,055	23,405	23,049	26,039	20,648	15,594	12,928	20,945	28,035	31,006
Douglas DC7.....	1,028	962	822	677	—	—	—	—	—	—
Piston-3-engine—total.....	2,831	2,477	1,716	5,470	2,983	1,191	—	—	—	—
Britten Norman MK 1.....	2,831	2,477	1,716	5,470	2,983	1,191	—	—	—	—
Piston-2-engine—total.....	229,150	291,397	360,832	402,377	410,287	427,488	324,539	437,955	411,897	177,868
Aero Commander AC500.....	13	—	6	28	300	878	678	789	1,503	104
Aero Commander AC680.....	70	—	—	—	—	581	759	1,129	892	166
Beech BE18.....	466	578	345	3,015	9,723	10,721	5,928	8,160	7,521	3,222
Beech A36TC.....	1,040	659	194	—	284	674	936	981	961	416
Beech BE55.....	—	—	194	—	2,637	1,430	1,558	1,476	827	99
Beech BE58.....	2,498	2,165	1,727	4,262	2,637	3,385	1,632	3,435	1,160	286
Beech BE65.....	3,940	2,181	5,252	—	586	306	78	—	123	—
Beech BE76.....	—	28	142	525	7,667	—	—	591	3,002	455
Beech BE80.....	—	—	—	7,031	—	—	—	557	105	—
Beech BE95.....	899	635	9	—	—	—	95	—	—	—
Beech BE99.....	—	—	—	—	—	3,719	—	—	—	—

TABLE 5.3—Continued

TOTAL FLIGHT HOURS FOR AIRCRAFT REPORTED IN OPERATION BY AIR CARRIERS, BY MANUFACTURER AND MODEL 1979 - 1988

Aircraft Make and Model	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Beech STC-18	—	—	—	—	—	—	—	—	2,769	—
Britten-Norman BN-2A	18,129	19,729	26,166	22,774	28,306	31,204	32,003	39,315	21,239	2,380
Britten-Norman BN-38	—	—	—	—	—	—	—	—	1,407	100
Cessna C207T	—	—	—	—	—	218	60	—	—	—
Cessna C210T	—	—	—	45	244	—	—	—	—	—
Cessna C303T	67	6	—	237	207	—	—	—	—	—
Cessna C310	—	440	490	372	56	1,059	2,573	4,227	2,857	1,157
Cessna C320	—	—	—	8	20	—	—	—	—	—
Cessna C337	—	—	—	—	—	—	—	—	—	—
Cessna C340	134	—	—	—	6	—	—	—	129	38
Cessna C401	376	—	—	—	—	788	513	1,234	499	244
Cessna C402	—	—	—	—	—	—	—	—	630	165
Cessna C403	104,933	139,843	184,470	191,070	166,914	152,566	103,415	137,504	120,892	23,818
Cessna C404	2,321	4,022	4,959	4,562	6,730	9,694	14,184	22,977	22,260	2,877
Cessna C411	—	—	—	102	135	—	6	60	470	51
Cessna C414	11	189	1,279	523	522	2,267	15	645	655	94
Cessna C421	89	—	—	46	26	32	26	14	573	—
Convair CV240	3,694	2,967	3,106	6,284	7,861	6,609	7,399	8,299	3,633	2,067
Convair CV340/CV440	6,229	6,384	5,584	4,664	6,910	15,932	10,633	17,163	13,744	16,784
Curtiss-Wright C46	—	—	411	1,104	966	1,821	2,340	3,358	4,673	8,768
DeHavilland DHC4	—	—	—	—	—	—	—	—	91	529
DeHavilland DHC104	—	—	—	—	—	—	489	2,014	1,268	109
Dornier DO28	—	—	—	—	—	—	—	199	400	16
Douglas DC3	14,680	21,485	25,971	25,916	23,498	21,836	19,649	25,861	32,749	69,964
Fairchild C82	—	—	—	6	708	1,252	1,104	2,198	2,127	1,957
Grunman G10	—	—	787	1,861	1,927	1,453	920	1,309	3,474	154
Grunman G21	—	—	56	110	151	96	80	76	—	—
Grunman G44	—	—	—	7,979	7,669	7,692	5,004	7,221	3,662	—
Grunman G73	1,887	11,178	10,411	3,207	4,298	1,817	—	—	—	—
Grunman G111	—	1,712	3,476	3,207	5,094	5,732	5,051	9,014	7,604	12,659
Martin M404	127	10	—	217	—	—	—	—	—	—
Partenavia PT68	13	1,362	—	6,308	4,691	6,658	4,871	9,969	9,996	1,073
Piper PA23	4,024	5,100	4,113	—	—	42	33	—	—	—
Piper PA28	—	—	—	—	460	721	228	392	281	22
Piper PA30	—	—	72,782	102,855	114,330	128,305	95,310	118,451	120,618	25,751
Piper PA31	61,016	67,554	—	—	—	—	—	—	—	—
Piper PA32	768	698	—	—	—	—	—	—	—	—
Piper PA34	1,266	981	7,352	7,255	6,660	7,298	5,022	8,853	8,569	1,157
Piper PA44	354	524	418	39	—	259	205	238	938	25
Piper PA600	106	409	321	—	—	169	239	108	7,596	1,189
Piper PA1020T	—	558	1,005	—	—	—	—	—	—	—
Helicopters—total	4,270	3,847	4,985	5,322	7,998	9,037	5,380	1,139	370	2,223

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration

TABLE 5.4

TOTAL LARGE AIRCRAFT REPORTED IN OPERATION BY DOMESTIC, FLAG AND SUPPLEMENTAL/SCHEDULED CARGO AIR CARRIERS AND COMMERCIAL OPERATORS BY CARRIER, AND BY ENGINE TYPE: DECEMBER 1988

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary Wing
		Total	4-eng	3-eng	2-eng	Total	4-eng	2-eng	Total	4-eng	3-eng	2-eng	
TOTAL.....	4,439	3,913	427	1,542	1,944	438	95	343	88	36	—	52	—
Aerial Transit	7	—	—	—	—	2	2	—	5	5	—	—	—
Aero Virgin Islands	1	—	—	—	—	—	—	—	1	—	—	1	—
Air Berlin.....	1	1	—	—	1	—	—	—	—	—	—	—	—
Air Specialties c Air America	4	4	—	4	—	—	—	—	—	—	—	—	—
Air Train.....	4	4	—	4	—	—	—	—	—	—	—	—	—
Air Transport Intl.....	4	4	4	—	—	—	—	—	—	—	—	—	—
Air Wisconsin dba United Express.....	31	11	11	—	—	20	—	20	—	—	—	—	—
Airborne Express	46	34	15	—	19	12	—	12	—	—	—	—	—
Airlift International.....	4	1	1	—	—	3	—	3	—	—	—	—	—
Alaska Airlines	46	46	—	22	24	—	—	—	—	—	—	—	—
Aloha Airlines	12	12	—	—	12	—	—	—	—	—	—	—	—
American Airlines	548	548	9	293	246	—	—	—	—	—	—	—	—
American Trans Air.....	18	18	—	18	—	—	—	—	—	—	—	—	—
American West Airlines	71	68	—	—	68	3	—	3	—	—	—	—	—
Amerijet International	6	6	—	6	—	—	—	—	—	—	—	—	—
Arrow Air	4	4	4	—	—	—	—	—	—	—	—	—	—
Aspen Airways dba United Express.....	14	4	4	—	—	10	—	10	—	—	—	—	—
Atlantic Southeast Airlines	11	—	—	—	—	11	5	6	—	—	—	—	—
Bar Harbor Airways	7	—	—	—	—	7	—	7	—	—	—	—	—
Basler Flight Service	3	—	—	—	—	—	—	—	3	—	—	3	—
Bo S Aire Airlines	1	—	—	—	—	—	—	—	1	—	—	1	—
Braniff	35	35	—	25	10	—	—	—	—	—	—	—	—
Britt Airways dba Britt Airways & Eastern Express	11	—	—	—	—	11	—	11	—	—	—	—	—
Buffalo Airways	2	2	2	—	—	—	—	—	—	—	—	—	—
Business Air	2	—	—	—	—	—	—	—	2	—	—	2	—
CCair dba Piedmont Commuter	11	—	—	—	—	11	—	11	—	—	—	—	—
Challenge Air Intl.....	2	2	2	—	—	—	—	—	—	—	—	—	—
Chautauqua Airlines dba Allegheny Commuter	2	—	—	—	—	2	—	2	—	—	—	—	—
Command Airway	11	—	—	—	—	11	—	11	—	—	—	—	—
Condor Aviation	1	—	—	—	—	—	—	—	1	—	—	1	—
Conner Airlines	4	1	1	—	—	—	—	—	3	3	—	—	—
Connie Kalitta Services	12	12	7	4	1	—	—	—	—	—	—	—	—
Continental and/or New York Continental Airlines	338	338	8	114	216	—	—	—	—	—	—	—	—
Delta Airlines	384	384	5	171	208	—	—	—	—	—	—	—	—
DHL Airways	8	8	—	8	—	—	—	—	—	—	—	—	—
Eastern Airlines	246	246	—	125	121	—	—	—	—	—	—	—	—
Emerald Air	5	5	—	—	5	—	—	—	—	—	—	—	—
ERA Aviation dba ERA Helicopters	3	—	—	—	—	3	—	3	—	—	—	—	—
Evergreen Intl. Airlines	23	23	6	9	8	—	—	—	—	—	—	—	—
Executive Air Charter dba American Eagle	4	—	—	—	—	4	—	4	—	—	—	—	—
Express One Intl.	9	9	—	7	2	—	—	—	—	—	—	—	—
Fairway Corp.	1	—	—	—	—	1	—	1	—	—	—	—	—
Federal Express	90	90	—	90	—	—	—	—	—	—	—	—	—
Flight Trails dba Air Resorts Airlines	10	—	—	—	—	3	—	3	7	—	—	7	—
Florida Airmotive	2	—	—	—	—	—	—	—	2	—	—	2	—
Florida Express dba Braniff Express	17	17	—	—	17	—	—	—	—	—	—	—	—
Florida West Airlines	4	4	4	—	—	—	—	—	—	—	—	—	—
Flying Tiger Lines	41	41	28	13	—	—	—	—	—	—	—	—	—
Frontier Flying Service	1	—	—	—	—	—	—	—	1	—	—	1	—
General Aviation	6	—	—	—	—	—	—	—	6	—	—	6	—
Great American Airways	2	2	—	—	2	—	—	—	—	—	—	—	—
Gulf Air	7	7	—	7	—	—	—	—	—	—	—	—	—
Hawaiian Airlines	31	23	6	5	12	8	8	—	—	—	—	—	—
Henson Aviation	26	—	—	—	—	26	6	20	—	—	—	—	—
Horizon Air Industries	14	2	—	—	2	12	—	12	—	—	—	—	—
Imperial Aviation	2	—	—	—	—	—	—	2	—	—	—	—	—
Interface Group dba Five Star Airlines	2	2	—	2	—	—	—	—	—	—	—	—	—

TABLE 5.4—Continued

TOTAL LARGE AIRCRAFT REPORTED IN OPERATION BY DOMESTIC, FLAG AND SUPPLEMENTAL/SCHEDULED CARGO AIR CARRIERS AND COMMERCIAL OPERATORS BY CARRIER, AND BY ENGINE TYPE: DECEMBER 1988

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary Wing
		Total	4-eng	3-eng	2-eng	Total	4-eng	2-eng	Total	4-eng	3-eng	2-eng	
International Air Services dba Spirit of America Airlines.....	2	2	—	1	1	—	—	—	—	—	—	—	—
Interstate Airlines.....	21	21	21	—	—	—	—	—	—	—	—	—	—
Jet Fleet.....	1	1	—	—	1	—	—	—	—	—	—	—	—
Key Airlines.....	8	8	—	8	—	—	—	—	—	—	—	—	—
Lincoln Airlines.....	3	—	—	—	—	3	—	3	—	—	—	—	—
Markair.....	9	5	—	—	5	4	4	—	—	—	—	—	—
Mesaba Airlines.....	6	—	—	—	—	6	—	6	—	—	—	—	—
Metro Express dba Eastern.....	8	—	—	—	—	8	—	8	—	—	—	—	—
Metro Express.....	3	3	—	3	—	—	—	—	—	—	—	—	—
MGM Grand Air.....	8	—	—	—	—	8	—	8	—	—	—	—	—
Mid Pacific Airlines.....	40	40	—	—	40	—	—	—	—	—	—	—	—
Midwest Express Airlines.....	9	9	—	9	—	—	—	—	—	—	—	—	—
Million Air.....	1	1	1	—	—	—	—	—	—	—	—	—	—
Mountain Air Cargo.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Northern Air Cargo.....	11	—	—	—	—	—	—	—	11	11	—	—	—
Northwest Airlines.....	319	309	40	91	178	10	—	10	—	—	—	—	—
Orion Lift Service.....	47	47	2	37	8	—	—	—	—	—	—	—	—
Pacific Alaska Airlines.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Pacific Interstate Airlines dba Majestic Airlines.....	1	1	—	1	—	—	—	—	—	—	—	—	—
Pan Am Express.....	19	—	—	—	—	19	10	9	—	—	—	—	—
Pan Am Shuttle.....	1	1	—	1	—	—	—	—	—	—	—	—	—
Pan American World Airways.....	136	136	35	65	36	—	—	—	—	—	—	—	—
Pandora Enterprises.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Pennsylvania Commuter Airlines dba Allegheny Commuter.....	5	—	—	—	—	5	—	5	—	—	—	—	—
PHH Air.....	13	13	—	8	5	—	—	—	—	—	—	—	—
Piedmont Aviation.....	195	195	—	34	161	—	—	—	—	—	—	—	—
Pilgrim Aviation & Airlines.....	9	—	—	—	—	9	—	9	—	—	—	—	—
Pocono Airlines dba Allegheny Commuter.....	7	—	—	—	—	7	—	7	—	—	—	—	—
Ports of Call Air.....	9	9	9	—	—	—	—	—	—	—	—	—	—
Presidential Airways.....	9	9	8	—	1	—	—	—	—	—	—	—	—
Reeve Aleutian Airways.....	7	2	—	2	—	5	3	2	—	—	—	—	—
Resort Air dba Trans World Express.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Rich International Airways.....	3	3	3	—	—	—	—	—	—	—	—	—	—
Rocky Mountain Airways dba Continental Express.....	5	—	—	—	—	5	5	—	—	—	—	—	—
Rosenbalm Aviation.....	26	26	26	—	—	—	—	—	—	—	—	—	—
Ross Aviation.....	3	—	—	—	—	3	3	—	—	—	—	—	—
Salair.....	9	—	—	—	—	—	—	—	9	—	—	9	—
Sedalia Marshall Boonville Stage Line.....	16	—	—	—	—	16	—	16	—	—	—	—	—
Sierra Pacific Airlines.....	14	—	—	—	—	14	—	14	—	—	—	—	—
Simmons Airlines dba American Eagle.....	38	—	—	—	—	38	—	38	—	—	—	—	—
Skyfreighters.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Smith, Bill.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Southern Air Transport.....	30	13	13	—	—	17	17	—	—	—	—	—	—
Southern Jersey Airways dba Eastern Express.....	1	—	—	—	—	1	1	—	—	—	—	—	—
Southwest Airlines.....	85	85	—	—	85	—	—	—	—	—	—	—	—
Southwind Airlines.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Stateswest Airlines.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Suburban Airlines.....	6	—	—	—	—	6	—	6	—	—	—	—	—
Sun Country Airlines.....	6	6	—	6	—	—	—	—	—	—	—	—	—
Sunworld International Airways.....	3	3	—	—	3	—	—	—	—	—	—	—	—
Systems Intl. Airways.....	2	—	—	—	—	—	—	—	2	—	—	2	—
T P I Intl Airways.....	7	1	1	—	—	6	5	—	—	—	—	—	—
Tempelhof Airways USA.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Tower Air.....	4	4	4	—	—	—	—	—	—	—	—	—	—
Trans Air Link.....	12	—	—	—	—	—	—	—	12	12	—	—	—
Trans Continental Airlines dba T C A.....	10	3	3	—	—	—	—	—	7	4	—	3	—

TABLE 5.4—Continued

TOTAL LARGE AIRCRAFT REPORTED IN OPERATION BY DOMESTIC, FLAG AND SUPPLEMENTAL/SCHEDULED CARGO AIR CARRIERS AND COMMERCIAL OPERATORS BY CARRIER, AND BY ENGINE TYPE: DECEMBER 1988

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary Wing
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	
Trans Florida.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Trans Intl. Airlines.....	7	7	7	—	—	—	—	—	—	—	—	—	—
Trans World Airlines.....	216	216	18	108	90	—	—	—	—	—	—	—	—
Tropical Airways.....	1	1	1	—	—	—	—	—	—	—	—	—	—
Twin Town Leasing.....	2	—	—	—	—	—	—	—	2	—	—	2	—
United Airlines.....	402	402	60	204	138	—	—	—	—	—	—	—	—
United Parcel Service.....	89	89	42	34	13	—	—	—	—	—	—	—	—
Universal Airlines.....	1	—	—	—	—	—	—	—	1	1	—	—	—
USAir.....	206	206	—	10	196	—	—	—	—	—	—	—	—
Viking Intl. Airlines.....	4	—	—	—	—	4	—	4	—	—	—	—	—
Westair Commuter dba United Express....	11	6	6	—	—	5	—	5	—	—	—	—	—
World Airways.....	6	6	—	6	—	—	—	—	—	—	—	—	—
Worldwide Airlines.....	30	—	—	—	—	30	—	30	—	—	—	—	—
Wrangler Aviation.....	4	—	—	—	—	4	4	—	—	—	—	—	—
Zantop International Airlines.....	36	6	6	—	—	30	21	9	—	—	—	—	—

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.
 Large aircraft—an aircraft with a seating capacity of more than 30 seats or a payload of more than 7,500 pounds.

TABLE 5.5

TOTAL SMALL AIRCRAFT REPORTED IN OPERATION BY COMMUTER AIR CARRIERS AND ON-DEMAND AIR TAXIS BY CARRIER, AND BY ENGINE TYPE: DECEMBER 1988

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary Wing
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	
TOTAL.....	1,221	2	—	—	2	937	—	937	274	—	3	271	8
40 Mile Air.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Aero Coach International.....	27	—	—	—	—	—	—	—	27	—	—	27	—
Air Cape dba Nantucket Airlines.....	4	—	—	—	—	—	—	—	4	—	—	4	—
Air Caribe.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Air Kentucky Airlines dba Allegheny Commuter.....	10	—	—	—	—	10	—	10	—	—	—	—	—
Air Midwest.....	45	—	—	—	—	45	—	45	—	—	—	—	—
Air Molokai.....	9	—	—	—	—	—	—	—	9	—	—	9	—
Air Nevada Airlines.....	5	—	—	—	—	—	—	—	5	—	—	5	—
Air Sunshine.....	4	—	—	—	—	—	—	—	4	—	—	4	—
Air Tour Acquisition dba Panorama Air Tour.....	8	—	—	—	—	—	—	—	8	—	—	8	—
Aloña Islandair.....	6	—	—	—	—	6	—	6	—	—	—	—	—
Alpha Aviation.....	4	—	—	—	—	—	—	—	4	—	—	4	—
Alpine Aviation.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Atlantic Southeast Airlines.....	41	—	—	—	—	41	—	41	—	—	—	—	—
Atlantis Airlines dba Eastern Atlantis Express.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Aviation Associates dba Sunaire.....	13	—	—	—	—	11	—	11	2	—	—	2	—
Baker Aviation.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Baldwin, Daniel dba Wrangell Air Serv- ice.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Bar Harbor Airways.....	47	—	—	—	—	47	—	47	—	—	—	—	—
Beridji Aviation Services.....	3	—	—	—	—	1	—	1	2	—	—	2	—
Bering Air.....	7	—	—	—	—	—	—	—	7	—	—	7	—
Big Island Air.....	3	—	—	—	—	1	—	1	2	—	—	2	—
Big Sky Transportation Co.....	14	—	—	—	—	11	—	11	3	—	—	3	—
Bo S Aire Airline.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Britt Airways dba Britt Airways & Eastern Express.....	29	—	—	—	—	29	—	29	—	—	—	—	—
Brockway Air NY dba Piedmont Com- muter.....	11	—	—	—	—	11	—	11	—	—	—	—	—
Brockway Air VT dba Piedmont Com- muter.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Business Air.....	7	—	—	—	—	—	—	—	7	—	—	7	—
Cape Smythe Air Service.....	8	—	—	—	—	2	—	2	6	—	—	6	—
Capitol Air Service.....	5	—	—	—	—	—	—	—	5	—	—	5	—
Catskill Airways.....	5	—	—	—	—	5	—	5	—	—	—	—	—
CCair dba Piedmont Commuter.....	15	—	—	—	—	15	—	15	—	—	—	—	—
Chalks International Airlines.....	4	—	—	—	—	4	—	4	—	—	—	—	—
Chaparral Air Service dba American Eagle.....	24	—	—	—	—	24	—	24	—	—	—	—	—
Chartair.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Chautauqua Airlines dba Allegheny Commuter.....	11	—	—	—	—	11	—	11	—	—	—	—	—
Christman Air Systems.....	4	—	—	—	—	4	—	4	—	—	—	—	—
Clearwater Flying Service dba Empire Airways.....	3	—	—	—	—	3	—	—	3	—	—	—	—
Coastal Air Transport.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Coastal Airlines dba National Air.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Comair.....	53	—	—	—	—	53	—	53	—	—	—	—	—
Command Airways.....	7	—	—	—	—	7	—	7	—	—	—	—	—
Conquest Airlines Corp.....	7	—	—	—	—	7	—	7	—	—	—	—	—
Crown Air.....	4	—	—	—	—	—	—	—	4	—	—	4	—
Crown Airways dba Allegheny Com- muter.....	8	—	—	—	—	8	—	8	—	—	—	—	—
DHL Airways.....	12	1	—	—	1	10	—	10	—	—	—	—	1
Direct Air.....	1	—	—	—	—	—	—	—	1	—	—	1	—
East Hampton Aire.....	18	—	—	—	—	3	—	3	15	—	—	15	—
ERA Aviation dba ERA Helicopters.....	9	—	—	—	—	9	—	9	—	—	—	—	—
Executive Air Charter dba American Eagle.....	9	—	—	—	—	9	—	9	—	—	—	—	—

TABLE 5.5—Continued

TOTAL SMALL AIRCRAFT REPORTED IN OPERATION BY COMMUTER AIR CARRIERS AND ON-DEMAND AIR TAXIS BY CARRIER, AND BY ENGINE TYPE: DECEMBER 1988

Name of Carrier	Total All Aircraft	Turbojet				Turbo-prop			Piston				Rotary Wing
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	
Express Airlines dba Northwest Air Link.....	36	—	—	—	—	36	—	36	—	—	—	—	—
Fairways.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Flamenco Airways.....	6	—	—	—	—	—	—	—	6	—	1	5	—
Flight Lines dba Southern Express.....	16	—	—	—	—	9	—	9	7	—	—	7	—
Florida Airmobile.....	6	—	—	—	—	—	—	—	6	—	—	6	—
Friendship Air Alaska.....	4	—	—	—	—	—	—	—	4	—	—	4	—
Frontier Flying Service.....	6	—	—	—	—	1	—	1	5	—	—	5	—
Golden Pacific Airlines.....	11	—	—	—	—	2	—	2	9	—	—	9	—
Grand Canyon.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Great Lakes Aviation.....	6	—	—	—	—	6	—	6	—	—	—	—	—
Harbor Airlines.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Helicopter Air Service dba Trump Air....	3	—	—	—	—	—	—	—	—	—	—	—	3
Henson Aviation.....	6	—	—	—	—	6	—	6	—	—	—	—	—
Hermens Air.....	5	—	—	—	—	3	—	3	2	—	—	2	—
Horizon Air.....	27	—	—	—	—	27	—	27	—	—	—	—	—
Imperial Aviation.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Intercity Airlines dba Havasu Airlines.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Iowa Airways.....	3	—	—	—	—	3	—	3	—	—	—	—	—
Jet Express.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Jetstream Intl. Airlines.....	31	—	—	—	—	31	—	31	—	—	—	—	—
JIB dba Action Air Charters.....	3	—	—	—	—	—	—	—	—	3	—	—	3
Kenosha Aero dba Alliance Airlines.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Ketchikan Air Service.....	1	—	—	—	—	—	—	—	1	—	—	1	—
L A B Flying Service.....	6	—	—	—	—	—	—	—	6	—	—	6	—
Lake Union Air Service.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Larry's Flying School.....	7	—	—	—	—	—	—	—	7	—	—	7	—
Mall Airways.....	8	—	—	—	—	8	—	8	—	—	—	—	—
Merlin Express.....	10	—	—	—	—	10	—	10	—	—	—	—	—
Mesa Airlines.....	14	—	—	—	—	14	—	14	—	—	—	—	—
Mesaba Airline.....	10	—	—	—	—	10	—	10	—	—	—	—	—
Metro Express I.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Metro Express press.....	19	—	—	—	—	19	—	19	—	—	—	—	—
Metroflight dba American.....	16	—	—	—	—	16	—	16	—	—	—	—	—
Midcontinent Airlines.....	4	—	—	—	—	3	—	3	1	—	—	1	—
Midstate Airlines.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Midway Airline 1987.....	19	—	—	—	—	19	—	19	—	—	—	—	—
Midwest Aviation Division of Southwest Aviation.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Montauk Caribbean Airways dba Long Island Airlines.....	9	1	—	—	1	2	—	2	6	—	—	6	—
MST Aviation dba MST Aviation of Wisconsin.....	2	—	—	—	—	—	—	—	2	—	—	2	—
N E Airlines.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Nashville Eagle dba American Eagle.....	38	—	—	—	—	38	—	38	—	—	—	—	—
New York Helicopter Corp.....	4	—	—	—	—	—	—	—	—	—	—	—	4
Nicholson Air Service dba Cumberland Airlines.....	4	—	—	—	—	—	—	—	4	—	—	4	—
NPA dba United Express.....	16	—	—	—	—	16	—	16	—	—	—	—	—
Peninsula Airways.....	6	—	—	—	—	6	—	6	—	—	—	—	—
Pennsylvania Aviation dba Wings Airways.....	6	—	—	—	—	1	—	1	5	—	2	3	—
Pennsylvania Commuter.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Airlines dba Allegheny Commuter.....	11	—	—	—	—	11	—	11	—	—	—	—	—
Pilgram Aviation and Airlines.....	22	—	—	—	—	22	—	22	—	—	—	—	—
Pocono Airlines dba Allegheny Commuter.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Precision Aviation.....	18	—	—	—	—	18	—	18	—	—	—	—	—
Presidential Airways.....	8	—	—	—	—	8	—	8	—	—	—	—	—
Prime Air.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Propheter Construction Co.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Resort Air dba Trans World Express.....	13	—	—	—	—	13	—	13	—	—	—	—	—

TABLE 5.5—Continued

TOTAL SMALL AIRCRAFT REPORTED IN OPERATION BY COMMUTER AIR CARRIERS AND ON-DEMAND AIR TAXIS BY CARRIER, AND BY ENGINE TYPE: DECEMBER 1988

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary Wing
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	
Resort Commuter.....	3	—	—	—	—	3	—	3	—	—	—	—	—
Rocky Mountain Airways dba Continental Express.....	10	—	—	—	—	10	—	10	—	—	—	—	—
Ross Aviation.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Royale Airlines.....	6	—	—	—	—	6	—	6	—	—	—	—	—
Ryan Air Service.....	3	—	—	—	—	—	—	—	3	—	—	3	—
S F O Helicopter Airlines.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Sallee's Aviation.....	2	—	—	—	—	—	—	—	2	—	—	2	—
San Juan Airlines.....	13	—	—	—	—	11	—	11	2	—	—	2	—
Scenic Airlines.....	13	—	—	—	—	13	—	13	—	—	—	—	—
Skagway Air Service.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Skywest Airlines.....	45	—	—	—	—	45	—	45	—	—	—	—	—
South Central Air.....	8	—	—	—	—	5	—	5	3	—	—	3	—
South Pacific Island Airways.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Southern Jersey Airways dba Eastern Express.....	4	—	—	—	—	4	—	4	—	—	—	—	—
Stateswest Airlines.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Suburban Airlines.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Templehof Airways USA.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Temsco Helicopters.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Texas National Airlines.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Valley Flying Service.....	4	—	—	—	—	—	—	—	4	—	—	4	—
Vieques Air Link.....	10	—	—	—	—	—	—	—	10	—	—	10	—
Virgin Air dba Air St Thomas.....	10	—	—	—	—	—	—	—	10	—	—	10	—
Virgin Island Seaplane.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Shuttle.....	6	—	—	—	—	3	—	3	3	—	—	3	—
Walkers Aviation.....	2	—	—	—	—	1	—	1	1	—	—	1	—
Westair Commuter dba United Express.....	45	—	—	—	—	45	—	45	—	—	—	—	—
Wilburs.....	9	—	—	—	—	—	—	—	9	—	—	9	—
Worldwide Airlines.....	4	—	—	—	—	4	—	4	—	—	—	—	—
WRA.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Wright Air Service.....	3	—	—	—	—	—	—	—	3	—	—	3	—

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.
 Small aircraft—an aircraft with a seating capacity of 30 seats or less or a payload of 7,500 pounds or less.

VI. U.S. CERTIFICATED AIR CARRIERS—OPERATING DATA

The traffic and financial data contained in this chapter include data for all U.S. Certificated Air Carriers—those holding a certificate issued under Section 401 of the Federal Aviation Act of 1958; and the commuter air carriers—those holding a certificate under Section 298C of the Federal Aviation Act of 1958.

The data are classified in two broad operational categories: "domestic" and "international". Beginning January 1, 1981, "domestic" encompasses operations within and between the 50 states of the United States, the District of Columbia, the Commonwealth of Puerto Rico and the Virgin Islands. It also encompasses Canadian transborder operations and for certain carriers, Mexican transborder operations. All other categories are considered "international". For periods prior to January 1, 1981, the data are classified in this same manner, except statistics for Puerto Rico and Virgin Islands operations are included in the international category rather than the domestic.

The certificated carriers are also grouped into "large" and "small" according to the size aircraft that the carrier operates. A "large" carrier is one that operates aircraft designed to have a maximum passenger seating capacity of 60 seats or more or a maximum payload capacity of 18,000 pounds or more, or conducts international operations. A "small" certificated carrier operates aircraft of less than 60 seats or a payload capacity of less than 18,000. The commuter carriers are grouped with the small certificated carriers.

The large certificated air carriers, beginning in 1981, were grouped according to their total operating revenue as listed below:

Carrier Groups	Carriers with Annual Operating Revenue of:
Major	\$1,000,000,000+
Nationals	\$75,000,000 - \$1,000,000,000
Large Regionals	\$10,000,000 - \$74,999,999
Medium Regionals	0 - \$9,999,999

The tables in this chapter are divided into two groups: 6.1-6.15 cover the large carriers and 6.16-6.18 cover the small commuter and large certificated medium regional carriers. Please note that some large certificated medium regional carriers are included in both groups of tables. The information for the large air carriers was obtained from the following sources published by the Research & Special Programs Administration of the Department of Transportation:

Air Carrier Traffic Statistics compiled from RSPA Form 41 Schedules T-1(a), T-1(b) and T-1(c).

Air Carrier Financial Statistics compiled from RSPA Form 41 Schedules B-1 and P-1.

The information for the small certificated, commuter and large certificated medium regional carriers was obtained from:

Air Carrier Industry Scheduled Service Traffic Statistics: Medium Regional Section: compiled from RSPA Form 298C Schedules A-1 and T-1.

TABLE 6.1
LARGE CERTIFICATE/ AIR CARRIERS 1987 AND 1988

MAJORS

American Continental Delta Eastern Federal Express Flying Tiger Northwest	Pan American Piedmont Trans World United US Air Western
---	--

NATIONALS

Air California Air Wisconsin Alaska Aloha American Trans Air American West Braniff Hawaiian	Jet America Midway Pacific Southwest Southwest TranStar United Parcel Service World Zantop
--	---

LARGE REGIONALS

Air America Arrow Aspen Britt Emerald Evergreen Five Star Florida Express Gulf Air Transport Horizon Air International Air Service InterState Key Markair	Mid Pacific Midwest Express Northern Air Orion Presidential Reeve Rich Rosenbalm Skyworld Southern Air Sun Country Sunworld Tower West Air
--	---

MEDIUM REGIONALS

Aerial Aeron Air Transport Int'l Amerijet Buffalo Challenge Air Cargo Challenge Air Int'l Conner Express One Florida West	Galaxy Great American Independent Air Jet Fleet MGM Grand Millon Pacific Interstate Sun Coast Trans Air Link Trans International
--	---

TABLE 6.2

TRAFFIC DATA, ALL SERVICES (Scheduled and Nonscheduled) OF THE LARGE CERTIFICATED AIR CARRIERS 1987 AND 1988

Traffic Category	Total System		Domestic Operations		International Operations	
	1988 ^P	1987 ^R	1988 ^P	1987 ^R	1988 ^P	1987 ^R
Revenue Passenger Miles Flown (000)	437,492,537	417,830,055	334,235,345	329,214,577	103,257,192	88,615,528
Available Seat Miles (000)	696,105,185	670,870,993	544,666,876	533,169,193	151,438,309	137,701,800
Revenue Passenger Enplanements (000)	463,124	455,516	423,817	420,832	39,307	34,664
Revenue Ton Miles Flown (000) *	58,338,680	54,917,632	41,562,502	40,509,782	16,776,178	14,467,850
Passenger	43,749,265	41,786,983	33,423,663	32,926,775	10,325,602	8,860,208
Freight	12,752,280	11,374,744	6,771,626	6,269,789	5,980,654	5,104,955
U.S. Mail	1,809,959	1,721,263	1,366,521	1,312,572	443,438	408,691
Foreign Mail	27,015	34,570	534	567	26,481	34,003
Revenue Aircraft Miles Flown (000)	4,350,162	4,182,327	3,736,271	3,652,542	613,891	529,786

* Details may not add to total due to rounding.

^P Preliminary^R Revised

Source: "Air Carrier Traffic Statistics" - RSPA

TABLE 6.3

REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN, AND AVERAGE SPEED IN DOMESTIC ALL SERVICES OF THE LARGE CERTIFICATED AIR CARRIERS 1979 - 1988

Year	Revenue Aircraft Departures	Revenue Aircraft Miles Flown (000)	Revenue Aircraft Hours Flown	Average Airborne Speed (Miles Per Hour)
1979.....	5,232,381	2,471,401	6,090,313	406
1980.....	5,222,379	2,523,375	6,247,795	404
1981.....	5,099,380	2,442,294	6,080,401	402
1982.....	4,860,482	2,442,292	5,962,431	410
1983.....	4,920,125	2,552,942	6,174,957	413
1984.....	5,358,454	2,875,402	6,970,886	412
1985.....	5,760,232	3,046,440	7,457,030	409
1986.....	6,336,150	3,421,492	8,223,615	416
1987 ^R	6,511,609	3,652,542	8,823,269	414
1988 ^P	6,604,309	3,736,271	9,130,113	409

^R Revised.

^P Preliminary.

Source: "Air Carrier Traffic Statistics" - RSPA

TABLE 6.4

REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN, AND AVERAGE SPEED IN INTERNATIONAL ALL SERVICES OF THE LARGE CERTIFICATED AIR CARRIERS 1979 - 1988

Year	Revenue Aircraft Departures	Revenue Aircraft Miles Flown (000)	Revenue Aircraft Hours Flown	Average Airborne Speed (Miles Per Hour)
1979.....	253,821	387,737	788,598	492
1980.....	256,415	400,791	819,518	489
1981.....	229,661	356,270	729,827	488
1982.....	233,726	362,183	739,820	490
1983.....	243,029	362,994	740,896	490
1984.....	241,087	388,794	792,267	491
1985.....	244,888	415,355	846,197	491
1986.....	271,735	451,338	923,641	489
1987 ^R	311,411	529,786	1,082,189	490
1988 ^P	353,494	613,891	1,257,819	488

^R Revised.

^P Preliminary.

Source: "Air Carrier Traffic Statistics" - RSPA

TABLE 6.5

TOTAL TON-MILES AVAILABLE IN ALL SERVICES OF THE LARGE
CERTIFICATED AIR CARRIERS 1979 - 1988 (Thousands of Ton-Miles)

Year	Large Certificated Air Carriers		
	Total System ¹	Domestic Operations	International Operations
1979.....	62,545,477	47,339,854	15,205,593
1980.....	66,167,596	49,396,481	16,763,237
1981.....	64,276,767	48,669,968	15,574,092
1982.....	65,769,930	49,757,601	16,012,329
1983.....	68,778,295	52,724,653	15,920,720
1984.....	76,298,288	58,942,974	17,355,314
1985.....	80,565,182	61,337,807	19,227,375
1986.....	90,243,958	69,771,737	20,472,221
1987 ^R	99,152,795	75,741,397	23,411,398
1988 ^P	105,270,796	78,203,055	27,067,741

¹ Categories may not add to total due to rounding.

^P Preliminary.

^R Revised.

Source: "Air Carrier Traffic Statistics" - RSPA

TABLE 6.6

REVENUE TON-MILES FLOWN IN ALL SERVICES BY LARGE CERTIFICATED
AIR CARRIERS 1979 - 1988 (Thousands of Tons)

Year	Large Certificated Air Carriers		
	Total ¹	Domestic Operations	International Operations
1979.....	34,550,392	25,676,130	8,874,792
1980.....	34,655,519	24,964,909	9,689,068
1981.....	33,923,495	24,801,224	9,122,094
1982.....	35,050,938	25,838,708	9,212,230
1983.....	38,011,227	28,271,465	9,624,208
1984.....	41,277,948	30,561,436	10,716,512
1985.....	44,154,779	32,939,216	11,215,563
1986.....	48,883,854	37,148,059	11,735,795
1987 ^R	54,917,632	40,509,782	14,407,850
1988 ^P	58,338,680	41,562,502	16,776,178

¹ Categories may not add to total due to rounding.

^P Preliminary.

^R Revised.

Source: "Air Carrier Traffic Statistics" - RSPA

TABLE 6.7

PASSENGER OPERATIONS IN SCHEDULED DOMESTIC OPERATIONS OF THE LARGE CERTIFICATED AIR CARRIERS
1979 - 1988

Year	Revenue Passenger Enplanements (000)	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor ¹ (Percent)	Average On-Line Passenger Trip Length (Miles)	Average Passenger Revenue Per Passenger Miles (Cents)
1979.....	292,700	208,890,884	332,796,130	62.8	714	8.93
1980.....	272,829	200,829,303	346,028,272	58.0	736	11.49
1981.....	265,304	198,714,755	346,171,952	57.4	749	12.74
1982.....	274,342	210,149,315	359,527,716	58.5	766	12.21
1983.....	296,721	226,908,925	379,150,158	59.8	765	12.13
1984.....	321,047	243,692,254	422,506,609	57.7	759	12.79
1985.....	357,109	270,584,011	445,825,864	60.7	758	12.32
1986.....	393,864	302,089,903	497,990,815	60.7	767	11.18
1987 ^R	416,831	324,637,336	526,958,361	61.6	779	11.42
1988 ^P	419,210	329,309,489	536,662,590	61.4	786	12.31

¹ Percent revenue passenger-miles of available seat-miles.^P Preliminary.^R Revised.

Source: "Air Carrier Traffic Statistics" - RSPA

TABLE 6.8

PASSENGER OPERATIONS IN SCHEDULED INTERNATIONAL OPERATIONS OF THE LARGE CERTIFICATED AIR CARRIERS 1979 - 1988

Year	Revenue Passenger Enplanements (000)	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor ¹ (Percent)	Average On-Line Passenger Trip Length (Miles)	Average Passenger Revenue Per Passenger Miles (Cents)
1979.....	24,163	53,132,491	83,330,299	63.8	2,199	7.66
1980.....	24,074	54,362,811	86,506,831	62.8	2,258	8.78
1981.....	20,672	50,173,046	78,725,278	63.7	2,427	9.46
1982.....	19,760	49,494,555	80,591,490	61.4	2,505	9.57
1983.....	21,917	54,920,223	85,387,821	64.3	2,506	10.21
1984.....	23,636	61,423,601	92,816,730	66.2	2,599	9.38
1985.....	24,913	65,819,010	101,962,568	64.6	2,642	9.80
1986.....	25,082	64,455,952	109,445,032	58.9	2,570	10.16
1987 ^R	30,847	79,834,148	121,762,577	65.6	2,588	9.82
1988 ^P	35,404	93,992,070	140,139,737	67.1	2,655	10.37

¹ Percent revenue passenger-miles of available seat-miles.^P Preliminary.^R Revised.

Source: "Air Carrier Traffic Statistics" - RSPA

TABLE 6.9
REVENUE AIRCRAFT-MILES FLOWN IN ALL SERVICES OF LARGE
CERTIFICATED AIR CARRIERS 1979 - 1988

Year	Thousands of Miles		
	Total ¹	Domestic Operations	International Operations
1979.....	2,859,138	2,471,401	387,737
1980.....	2,924,234	2,523,375	400,791
1981.....	2,703,219	2,442,294	356,270
1982.....	2,804,475	2,442,292	362,183
1983.....	2,922 583	2,552,942	362,994
1984.....	3,264,196	2,875,402	388,794
1985.....	3,461,795	3,046,440	415,355
1986.....	3,872,830	3,421,492	451,338
1987 ^R	4,182,327	3,652,542	529,786
1988 ^P	4,350,162	3,736,271	613,891

¹ Details may not add to total due to rounding.

^P Preliminary.

^R Revised

Source: "Air Carrier Traffic Statistics" - RSPA

TABLE 6.10

OPERATING REVENUE OF DOMESTIC OPERATIONS, ALL SERVICES LARGE CERTIFICATED AIR CARRIERS MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS 1975 - 1988
(Thousands of Dollars)

Year	Total Operating Revenues ¹		Passenger		U.S. Mail (Including Subsidy)		Express and Freight		Excess Baggage		Other	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1979	21,652,405	100.0	18,719,830	86.5	415,737	1.9	1,455,828	6.7	27,681	0.1	1,033,313	4.8
1980	26,403,576	100.0	23,081,487	87.4	57,572	2.0	1,552,836	5.9	32,168	0.1	1,207,184	4.6
1981	28,787,566	100.0	25,504,233	88.6	59,746	2.1	1,659,182	5.8	36,101	0.1	997,305	3.4
1982	28,727,699	100.0	25,439,640	88.6	571,822	2.0	1,505,035	5.2	42,045	0.1	1,169,148	4.1
1983	31,014,393	100.0	27,519,079	88.7	537,234	1.7	1,601,895	5.2	51,967	0.2	1,304,221	4.2
1984	35,393,945	100.0	31,436,951	88.8	559,138	1.6	1,715,979	4.8	70,032	0.2	1,611,842	4.6
1985	37,628,540	100.0	33,343,005	88.6	740,384	1.9	1,580,914	4.2	78,113	0.2	1,886,123	5.0
1986	41,000,506	100.0	33,813,923	82.5	682,643	1.7	4,278,008	10.4	85,438	0.2	2,140,496	5.2
1987 R	45,657,800	100.0	37,492,065	82.2	706,178	1.5	4,951,524	10.9	66,756	0.1	2,440,877	5.3
1988 P	50,051,633	100.0	41,021,417	82.0	696,647	1.4	5,753,922	11.5	71,929	0.1	2,507,719	5.0

¹ Details may not add to total due to rounding

P Preliminary

R Revised

NOTE: 1976-1981 include financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.14

Source: "Air Carrier Financial Statistics", Table 1 - RSPA

TABLE 6.11

OPERATING EXPENSES OF DOMESTIC OPERATIONS, ALL SERVICES LARGE CERTIFICATED AIR CARRIERS MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS 1979 - 1988
(Thousands of Dollars)

Year	Total Operating Expenses ¹		Aircraft Operating Expenses						Ground and Indirect Expense		Net Operating Income or Loss Amount
			Flight Operations		Maintenance		Depreciation and Amortization		Amount	Percent	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent			
1979 ..	21,522,972	100.0	7,998,440	37.2	2,457,497	11.4	1,372,944	6.4	9,693,961	45.0	129,433
1980 ..	26,409,238	100.0	11,029,423	41.8	2,757,663	10.4	1,560,312	5.9	11,061,841	41.9	-5,662
1981 ..	29,051,130	100.0	12,036,704	41.4	2,821,933	9.7	1,723,406	5.9	12,469,387	42.9	-263,564
1982 ..	29,478,115	100.0	11,529,364	39.1	2,709,440	9.2	1,876,106	6.4	13,363,206	45.3	-750,416
1983 ..	31,185,661	100.0	11,370,479	36.5	2,877,991	9.2	2,107,283	6.8	14,829,909	47.6	-171,268
1984 ..	33,811,742	100.0	12,160,526	36.0	3,175,865	9.4	2,223,275	6.6	16,252,075	48.1	1,582,203
1985 ..	36,610,744	100.0	12,684,018	34.7	3,604,447	9.8	2,318,066	6.3	18,004,213	49.2	1,017,796
1986 ..	39,934,036	100.0	11,368,346	28.5	4,475,473	11.2	2,652,497	6.6	21,437,719	53.7	1,066,470
1987 ^R ..	43,925,149	100.0	12,508,716	28.5	4,950,558	11.3	2,854,806	6.5	23,611,068	53.7	1,732,650
1988 ^P ..	47,562,464	100.0	13,100,351	27.5	5,619,685	11.8	2,973,615	6.3	25,868,813	54.4	2,489,169

¹ Details may not add to total due to rounding.

P Preliminary

R Revised

NOTE: 1976-1981 include financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.14.

Source: "Air Carrier Financial Statistics", Table 1 - RSPA

TABLE 6.12

OPERATING REVENUE OF INTERNATIONAL OPERATIONS, ALL SERVICES LARGE CERTIFICATED AIR CARRIERS MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS 1979 - 1988
(Thousands of Dollars)

Year	Total Operating Revenues ¹		Passenger		U.S. Mail (Including Subsidy)		Express and Freight		Excess Baggage		Other	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1979	5,574,590	100.0	4,071,862	73.0	119,948	2.2	755,492	13.6	22,743	0.4	604,546	10.8
1980	6,543,033	100.0	4,777,026	73.0	163,204	2.5	875,682	13.4	24,749	0.4	702,372	10.7
1981	6,390,140	100.0	4,916,469	77.1	165,467	2.6	984,474	15.4	24,654	0.4	299,075	4.7
1982	6,434,904	100.0	4,959,347	77.1	176,930	2.8	989,620	15.4	25,358	0.4	283,448	4.4
1983	7,163,275	100.0	5,604,902	78.2	152,455	2.1	999,405	14.0	23,012	0.3	383,502	5.4
1984	7,974,706	100.0	6,074,406	76.2	157,703	2.0	1,169,259	14.8	27,447	0.3	545,892	6.8
1985	8,302,279	100.0	6,451,324	77.7	160,543	1.9	1,130,050	13.6	27,832	0.3	531,528	6.4
1986	8,621,149	100.0	6,550,550	76.0	153,627	1.8	1,451,488	16.8	28,254	0.3	437,231	5.1
1987 ^R	10,924,837	100.0	8,374,295	76.7	180,052	1.6	1,782,832	16.3	32,688	0.3	554,971	5.1
1988 ^P	13,331,945	100.0	10,331,313	77.5	183,774	1.4	2,106,147	15.8	39,124	0.3	671,586	5.0

¹ Details may not add to total due to rounding

^R Preliminary.

^P Revised.

NOTE: 1976-1981 include financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.14.

Source: "Air Carrier Financial Statistics", Table 1 - RSPA

TABLE 6.13

OPERATING EXPENSES OF INTERNATIONAL OPERATIONS, ALL SERVICES LARGE CERTIFICATED AIR CARRIERS MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS 1979 - 1988
(Thousands of Dollars)

Year	Total Operating Expenses ¹		Aircraft Operating Expenses						Ground and Indirect Expense		Net Operating Income or Loss Amount
	Amount	Percent	Flying Operations		Maintenance		Depreciation and Amortization		Amount	Percent	
			Amount	Percent	Amount	Percent	Amount	Percent			
1979	5,505,332	100.0	1,960,372	35.6	571,215	10.4	351,700	6.4	2,662,043	47.6	69,258
1980	6,765,623	100.0	2,775,331	41.0	615,982	9.1	385,396	5.7	2,988,914	44.2	-222,590
1981	6,574,441	100.0	2,756,877	42.0	539,605	8.2	382,367	5.9	2,895,591	44.0	-184,300
1982	6,451,807	100.0	2,596,134	40.2	511,795	7.9	396,159	6.1	2,947,719	45.7	-17,103
1983	6,692,776	100.0	2,490,076	37.2	547,741	8.2	388,708	5.8	3,266,252	48.8	470,499
1984	7,484,679	100.0	2,628,664	35.1	676,950	9.0	445,857	6.0	3,733,208	49.9	490,028
1985	7,983,705	100.0	2,738,439	34.4	768,018	9.6	481,560	6.0	3,995,687	50.0	318,574
1986	8,458,084	100.0	2,401,911	28.4	900,784	10.7	517,524	6.1	4,637,866	54.8	163,066
1987 ^a	10,226,388	100.0	2,836,095	27.7	1,095,635	10.7	533,079	5.2	5,761,579	56.4	698,450
1988 ^b	12,361,152	100.0	3,229,711	26.1	1,307,595	10.6	615,920	5.0	7,207,925	58.3	970,794

¹ Details may not add to total due to rounding. ^R Preliminary. ^P Revised.

NOTE: 1976-1981 include financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.15. Source: "Air Carrier Financial Statistics", Table 1 - RSPA

TABLE 6.14

OPERATING REVENUE, SYSTEM, ALL SERVICES LARGE CERTIFICATED AIR CARRIERS MEDIUM REGIONAL GROUP 1982 - 1988 (Thousands of Dollars)

Year	Total Operating Revenues		Scheduled Passenger		Scheduled Other		Non Scheduled Service		Subsidy		Other Transport Related	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1982	448,159	100.0	154,261	34.5	39,690	8.9	207,558	46.3	6,030	1.3	40,259	9.0
1983	108,082	100.0	19,126	17.7	9,897	9.2	73,469	68.0	2,132	2.0	3,457	3.2
1984	159,837	100.0	61,966	38.8	7,063	4.4	83,249	52.1	1,561	1.0	5,998	3.7
1985	150,754	100.0	38,045	25.2	19,467	12.9	89,863	59.6	0	0.0	3,379	2.2
1986	81,971	100.0	10,576	12.9	43	0.0	61,729	75.4	0	0.0	9,624	11.7
1987 ^a	114,593	100.0	6,845	6.0	4,521	3.9	85,406	74.5	0	0.0	17,821	15.6
1988 ^a	129,010	100.0	21,547	16.7	3,343	2.6	101,876	79.0	0	0.0	2,243	1.7

^a Preliminary.^a Revised.

Source: "Air Carrier Financial Statistics", Table 3 - RSPA

NOTE: Wide fluctuations in total revenues and expenses are caused by fluctuations in the number of medium regional carriers. Some have been upgraded to large regional carriers and some have gone out of business. For list of medium regional carriers see "Air Carrier Financial Statistics" for year in question.

TABLE 6.15

OPERATING EXPENSES, SYSTEM, ALL SERVICES LARGE CERTIFICATED AIR CARRIERS MEDIUM REGIONAL GROUP 1982 - 1988 (Thousands of Dollars)

Year	Total Operating Expenses		Flying Operations		Maintenance		General and Administrative		Depreciation and Amortization		Transport Related	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1982	467,998	100.0	242,231	51.8	52,816	11.2	122,861	26.3	19,791	4.2	30,299	6.5
1983	111,713	100.0	68,130	61.0	17,693	15.8	18,327	16.4	7,353	6.6	210	0.2
1984	159,680	100.0	89,995	56.4	21,572	13.5	37,866	23.7	9,885	6.2	361	0.2
1985	151,527	100.0	79,920	52.8	22,585	14.9	42,703	28.2	5,179	3.4	1,140	0.7
1986	87,359	100.0	45,435	52.0	14,515	16.6	17,436	20.0	2,616	3.0	7,356	8.4
1987 ^a	120,019	100.0	56,061	46.7	25,533	21.3	27,351	22.8	6,269	5.2	4,803	4.0
1988 ^a	138,538	100.0	62,451	47.9	26,422	19.1	36,731	26.5	7,835	5.7	1,099	0.8

Source: "Air Carrier Financial Statistics", Table 3 - RSPA

NOTE: Wide fluctuations in total revenues and expenses are caused by fluctuations in the number of medium regional carriers. Some have been upgraded to large regional carriers and some have gone out of business. For list of medium regional carriers see "Air Carrier Financial Statistics" for year in question.

TABLE 6.16

SMALL CERTIFICATED AND COMMUTER AIR CARRIERS 1987 AND 1988

40-Mile Air	Desert Sun Airlines	Omniflight Helicopters
Action Airlines	Direct Air	Panorama Air Tours
Aerial Transit Company *	East Hampton Aire	Peninsula Airways
Aero Coach	Empire Airways	Pennsylvania Airlines
Aero Virgin Islands	Enterprise Airlines	Pocono Airlines
Aeron Int'l	ERA Aviation	Polar International
Air Cape	Exec Express	Precision Valley Aviation
Air Caribe Int'l	Exec Express II	Presidential Express
Air Kentucky Air Lines	Executive Air Charter	Prime Air
Air L. A.	Express Airlines I	Pro Air Services
Air Link Airways	Fischer Bros. Aviation	Prophet Aviation
Air Midwest	Flamenco Airways	Provincetown Boston
Air Molakai	Florida West Airlines *	QWest Commuter
Air Nevada Airlines	Freedom Air	Ransome Airlines
Air New Orleans	Friendship Air Alaska	Resort Air
Air Sunshine	Frontier Flying Service	Resort Commuter
Air-Lift Associates	Galena Air Service	Rocky Mountain Airways
Airways Int'l	GCS Air Service	Ross Aviation
Alaska Island Air	Golden Pacific Airlines	Royale Airlines
Aleutian Air	GP Express	Ryan Air Services
Alliance Airlines	Grand Canyon	Samoa Aviation
Aloha Island Air	Grand Canyon Helicopters	San Juan Airlines
Alpha Air	Great Lakes Aviation	Scenic Airlines
Alpine Air	Green Hills Aviation	Seagull Air Service
Altus Airlines	Haines Airways	SFO Helicopter Airlines
Ana	Harbor Air Service	Simmons Airlines
Armstrong Air Service	Harbor Airlines	Skagway Air Service
Atlantic Southeast Airlines	Havasut Airlines	Sky West Aviation
Atlantis Airlines	Helitrans	South Pacific Island Airway
Audi Air	Henson Aviation	Southcentral Air
Avair	Hermens Air	Southern Airways
Baker Aviation	Holiday Airlines	Southern Jersey Airways
Bar Harbor Airways	Hub Express	Sportsman Flying Service
Barrow Air	Iliamna Air Taxi	Springdale Air
Bas Aviation	Iowa Airways	Stateswest Airlines
Bellair	Jet Express	Suburban Airlines
Bemidji Airlines	Jetstream Int'l Airlines	Sunair
Bering Air	Kenmore Air Harbor	Suncoast Airlines *
Big Island Air	Ketchikan Air Service	Tanana Air Service
Big Sky Airlines	King Flying Service	Taquan Air Service
Brockway Air	L.A.B. Flying Service	Tatonduk Flying Service
Business Express Airlines	LA Helicopter	Temco Airlines
Cape Smythe Air Service	Laredo Air	Tennessee Airways
Capitol Airline	Larry's Flying Service	Texas National Airlines
Caribbean Express	Long Island Airlines	Trans-Colorado Airlines
Catskill Airways	Mall Airways	Tri Air Freight
CCair	Manu'a Air Transport	Tropical Helicopter Airways
Centennial Airlines	Maui Airlines	Trump Air
Chalks Int'l Airlines	Mesa Airlines	Valley Airlines
Challenge Air Cargo *	Mesaba Aviation	Vieques Air Link, Inc.
Challenge Air Int'l *	Metro Express	Village Aviation
Channel Flying	Metro Express II	Virgin Air
Chaparral Airlines	Metroflight Airlines	Virgin Islands Seaplane
Chartair	MGM Grand Air *	Walker's International
Chautauqua Airlines	Michigan Airways	Wheeler Airlines
Chester County Aviation	Midcontinent Airlines	Wilbur's
Chitina Air Service	Midstate Airlines	Wings Airways
Christman Air System	Midwest Aviation	Wings of Alaska
Coastal Air Transport	MST Aviation	Wings West
Comair	Nashville Eagle	WRA
Command Airways	New England Airlines	Wrangell Air Service
Crown Air	New York Helicopter	Wright Air Service
Crown Airways	NPA	Yutana Airlines
Cumberland Airlines	Olson Air Service	Yute Air Alaska

* Large certificated medium regional air carrier.

TABLE 6.17

SMALL CERTIFICATED, COMMUTER AND LARGE CERTIFICATED MEDIUM REGIONAL AIR CARRIERS TRAFFIC DATA SCHEDULED SERVICES ONLY 1981-1988

Category	1981	1982	1983	1984	1985	1986	1987 ^a	1988 ^a
Revenue Passenger Miles (000)	2,160,350	2,905,243	2,228,453	4,601,837	3,031,817	3,352,187	3,986,637	4,415,391
Revenue Enplanements (000)	15,642	17,444	15,941	20,230	18,853	20,849	24, 839	27,404
Passenger Ton Miles (000)	210,026	286,608	222,189	460,135	302,783	335,264	396,887	440,177
Cargo Ton Miles (000)	32,812	30,911	7,752	18,291	67,400	49,927	54,659	82,500
Aircraft Revenue Miles (000)	254,682	264,176	242,120	304,217	323,945	347,181	395,998	424,121
Aircraft Revenue Hours	1,558,025	1,504,406	1,464,879	1,759,848	1,832,623	1,940,095	2,193,230	2,306,717
Aircraft Departures	2,341,469	2,353,081	2,287,504	2,706,142	2,755,516	2,866,653	3,132,899	3,187,284

^a Revised^p Preliminary

Source: "Air Carrier Industry Scheduled Traffic Statistics", RSPA

TABLE 6.18

SMALL CERTIFICATED, COMMUTER AND LARGE CERTIFICATED MEDIUM REGIONAL AIR CARRIERS TRAFFIC AVERAGES SCHEDULED SERVICES ONLY 1981-1988

Category	1981	1982	1983	1984	1985	1986	1987 ^a	1988 ^a
Passengers Per Aircraft Mile	8.5	11.0	9.2	15.1	9.4	9.7	10.1	10.4
Available Seats Per Aircraft Mile	18.2	23.7	20.7	30.0	21.3	21.5	21.8	22.2
Revenue Tons Per Aircraft Mile	1.0	1.2	1.0	1.6	1.1	1.1	1.1	1.2
Available Tons Per Aircraft Mile	2.1	2.8	2.3	3.3	2.7	2.5	2.7	2.6
Flight Stage Length (Miles)	108.8	112.3	105.8	112.3	117.6	128.7	126.4	133.1

^a Revised^p Preliminary

Source: "Air Carrier Industry Scheduled Traffic Statistics", RSPA

VII. U.S. CIVIL AIRMEN

Statistics pertaining to airmen, both pilot and nonpilot, were obtained from the official airmen certification records maintained by the Airmen Certification and Medical Certification Branches of the Mike Monroney Aeronautical Center at Oklahoma City, Oklahoma.

Active pilots are those pilots who hold a pilot certificate and a valid medical certificate—one that was issued within the last 25 months. Glider and Lighter-than-air pilots may have, but are not required to have, a medical examination. The inventory data for these categories include only those with a valid medical certificate.

For those nonpilot certificates for which a medical certificate is not required (mechanics, parachute riggers, ground instructors, and dispatchers), the numbers shown include all who have been issued that airman certificate.

TABLE 7.1

ESTIMATED ACTIVE PILOT CERTIFICATES HELD: DECEMBER 31, 1979 - 1988

Category	1979	1980 ¹	1981	1982	1983	1984	1985	1986	1987	1988
Pilot—Total.....	814,667	827,071	764,182	733,255	718,004	722,376	709,540	709,118	699,653	694,016
Student.....	210,180	199,833	179,912	156,361	147,197	150,081	146,652	150,273	146,016	136,913
Private.....	343,276	357,479	328,562	322,094	318,643	320,086	311,086	305,736	300,949	299,786
Commercial.....	182,097	183,442	168,580	165,093	159,495	155,929	151,632	147,798	143,645	143,030
Airline Transport.....	63,652	69,569	70,311	73,471	75,938	79,192	82,740	87,186	91,287	96,968
Helicopter (only).....	5,218	6,030	6,453	7,034	7,237	7,532	8,123	8,581	8,702	8,608
Glider (only) ²	6,796	7,039	7,388	7,842	8,157	8,390	8,168	8,411	7,901	7,600
Lighter-than-air ²	3,448	3,679	2,976	1,360	1,337	1,166	1,139	1,133	1,153	1,111
Nonpilot—Total ³	351,981	368,356	382,840	399,661	413,199	426,802	395,139	410,079	427,962	448,710
Mechanic ³	237,611	250,157	262,705	277,436	288,335	298,028	274,100	284,241	297,178	312,419
Parachute Rigger ³	9,381	9,547	9,716	9,893	10,074	10,194	9,395	9,535	9,659	9,770
Ground Instructor ³	59,680	61,550	63,246	65,004	66,385	67,463	58,214	59,443	60,861	62,582
Dispatcher ³	6,446	6,799	7,094	7,580	8,223	8,980	8,511	9,025	9,491	10,020
Flight Navigator.....	1,994	1,936	1,785	1,695	1,636	1,603	1,542	1,512	1,445	1,400
Flight Engineer.....	36,869	38,367	38,294	38,053	38,546	40,534	43,377	46,323	49,328	52,519
Flight Instructor Certificates ⁴	54,398	60,440	57,523	62,492	62,201	61,173	58,940	57,355	60,316	61,798
Instrument Ratings ⁵	247,096	260,461	252,535	255,073	254,271	256,584	258,559	262,388	266,122	273,804

¹ For 1980 only, a valid medical certificate was defined as one that was issued within the last 27 months.² Glider and lighter-than-air pilots are not required to have a medical examination, however, the totals above represent pilots who received a medical examination within the last 25 months.³ Numbers represent all certificates on record. No medical examination required.⁴ Not included in total.⁵ Special ratings shown on pilot certificates, do not indicate additional certificates.^{*} Revised.

TABLE 7.2

ESTIMATED ACTIVE WOMEN PILOT CERTIFICATES HELD: DECEMBER 31, 1979 - 1988

Category of Certificates Held	1979	1980 ¹	1981	1982	1983	1984	1985	1986	1987	1988
Pilot—Total.....	51,733	52,902	47,721	45,305	43,648	44,339	43,483	43,082	42,578	42,299
Student.....	26,714	26,006	22,591	19,958	18,696	19,435	19,058	18,899	18,367	17,529
Private.....	20,275	21,554	19,602	19,388	18,801	18,616	17,974	17,532	17,349	17,544
Commercial.....	3,618	3,993	4,101	4,257	4,281	4,232	4,185	4,176	4,208	4,410
Airline Transport.....	361	480	584	749	884	1,032	1,184	1,334	1,538	1,745
Helicopter (only).....	27	55	87	113	144	167	196	232	247	259
Glider (only) ²	461	496	540	574	599	631	653	667	627	590
Lighter-than-air ²	277	318	216	266	243	226	233	242	242	222
Nonpilot—Total ³	4,350	4,779	5,201	5,697	6,151	6,591	6,017	6,502	7,101	7,842
Mechanic ³	695	890	1,051	1,298	1,493	1,649	1,775	1,964	2,237	2,565
Parachute Rigger ³	553	562	580	593	605	614	412	414	428	441
Ground Instructor ³	2,852	3,015	3,213	3,391	3,554	3,680	2,980	3,087	3,232	3,391
Dispatcher ³	105	141	167	199	249	310	394	460	524	622
Flight Navigator.....	145	171	189	215	248	336	455	577	680	822
Flight Engineer.....	0	0	1	1	2	2	1	0	0	1
Flight Instructor Certificates ⁴	1,699	2,079	2,165	2,532	2,685	2,736	2,731	2,687	2,909	3,018

¹ For 1980 only, a valid medical certificate was defined as one that was issued within the last 27 months.² Glider and lighter-than-air pilots are not required to have a medical examination, however, the totals above represent pilots who received a medical examination within the last 25 months.³ Numbers represent all certificates on record. No medical examination required.⁴ Not included in total.^{*} Revised.

TABLE 7.3

ESTIMATED ACTIVE PILOT AND NONPILOT CERTIFICATES HELD, BY CLASS OF CERTIFICATES AND BY FAA REGION: DECEMBER 31, 1988

Class of Certificate	Total ¹	Alaskan	Central	Eastern	Great Lakes	New England	Northwest Mountain	Southern	Southwest	Western-Pacific	Outside U.S. ²
Total—All Pilots	694,016	10,191	34,932	90,964	115,271	34,433	64,901	117,731	82,964	121,715	20,914
Student Pilots—Total	136,913	1,718	5,949	20,536	23,381	8,282	12,328	22,928	15,005	23,135	3,651
Private Pilots—Total	299,786	4,858	17,937	37,864	56,764	14,811	28,529	46,663	34,948	53,696	3,716
Private Airplane (only)	289,318	4,714	17,501	36,246	55,397	14,321	27,474	44,820	33,805	51,630	3,410
Private Airplane, Private Glider	4,059	38	158	703	622	195	386	618	391	889	59
Private Airplane, Commercial Glider	799	4	22	164	109	60	98	85	70	179	8
Private Airplane, Private Gyroplane	26	0	0	3	8	1	0	2	6	6	0
Private Airplane, Private Helicopter	1,392	14	64	169	163	84	152	215	171	290	70
Private Airplane, Private Glider, Private Helicopter	60	0	1	15	10	5	3	7	5	11	3
Private Airplane, Commercial Helicopter											
Private Airplane, Private Helicopter	4,081	86	190	554	451	144	406	907	495	683	165
Private Airplane, Private Glider, Commercial Helicopter	32	1	1	5	0	1	9	6	3	5	1
Private Airplane, Commercial Glider, Commercial Helicopter	17	1	0	5	2	0	1	3	2	3	0
Private Airplane, Commercial Gyroplane, Commercial Helicopter	2	0	0	0	2	0	0	0	0	0	0
Commercial Pilots—Total	143,030	2,491	7,136	17,854	21,086	5,819	13,145	25,807	18,549	24,798	6,345
Commercial Airplane (only)	121,819	2,151	6,249	14,899	18,787	4,992	10,991	21,289	15,751	20,697	6,013
Commercial Airplane, Private Glider	2,063	22	95	323	268	78	229	339	234	450	25
Commercial Airplane, Commercial Glider	3,703	24	138	558	515	213	430	574	421	794	36
Commercial Airplane, Commercial Gyroplane, Commercial Glider	2	0	0	0	1	0	0	0	0	1	0
Commercial Airplane, Private Helicopter											
Commercial Airplane, Commercial Helicopter	302	6	12	44	57	12	25	45	40	53	8
Commercial Airplane, Commercial Glider, Private Helicopter	24	0	0	6	5	1	1	2	3	5	1
Commercial Airplane, Commercial Helicopter	14,346	275	614	1,904	1,365	486	1,386	3,425	2,014	2,625	252
Commercial Airplane, Private Glider, Commercial Helicopter	150	1	6	24	25	6	11	28	16	30	3
Commercial Airplane, Commercial Glider, Commercial Helicopter	562	10	21	90	53	30	63	96	62	132	5
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	22	1	1	2	4	0	4	4	1	4	1
Commercial Airplane, Commercial Gyroplane	24	1	0	2	4	1	4	4	5	3	0
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter											
Commercial Glider	13	0	0	2	2	0	1	1	2	4	1
Airline Transport Pilots—Total	96,968	1011	3382	11,669	12,169	4,582	9,332	19,350	12,552	16,293	6,628
Airline Transport Airplane (only)	95,282	972	3,343	11,371	12,026	4,467	9,198	19,018	12,287	16,024	5,576
Airline Transport Airplane, Airline Transport Helicopter	1686	39	39	298	143	115	134	332	265	269	52
Rotorcraft (only) Pilots—Total	8,608	93	331	1,333	729	441	611	2,189	1,175	1,282	424
Private Gyroplane	15	0	1	1	6	1	1	2	0	2	1
Private Helicopter	1143	4	23	171	102	123	83	115	126	300	96
Commercial Helicopter	6,997	79	303	1,094	594	305	494	2,006	966	930	226
Commercial Helicopter, Private Glider	7	0	0	3	0	0	0	1	1	2	0

TABLE 7.3—Continued

ESTIMATED ACTIVE PILOT AND NONPILOT CERTIFICATES HELD, BY CLASS OF CERTIFICATES AND BY FAA REGION: DECEMBER 31, 1988

Class of Certificate	Total ¹	Alaskan	Central	Eastern	Great Lakes	New England	Northwest Mountain	Southern	Southwest	Western-Pacific	Outside U.S. ²
Commercial Helicopter, Commercial Glider.....	4	0	1	1	1	0	0	0	0	1	0
Commercial Helicopter, Commercial Gyroplane.....	2	0	0	0	0	0	0	1	1	0	0
Airline Transport Helicopter.....	440	10	3	63	26	12	33	64	111	47	71
Glider (only)—Total.....	7600	13	126	1559	952	449	828	653	571	2306	142
Private Glider.....	6528	10	112	1308	814	369	685	572	481	2054	123
Commercial Glider.....	1072	3	14	251	138	80	143	81	90	252	20
Lighter-Than-Air—Total.....	1111	7	71	149	190	49	128	141	164	205	7
Nonpilots—Total.....	448710	4524	22221	63872	58437	19268	37996	77950	58717	85163	26562
Mechanic ³	312419	3151	17239	45826	40032	13206	24356	51822	41834	60930	14021
Parachute Rigger ³	9770	154	426	1649	1227	350	1308	1869	991	1632	161
Ground Instructor ³	62582	712	3114	8651	9887	2763	5660	10725	8266	11247	1557
Dispatcher ³	10020	158	152	1966	963	259	497	1870	747	1465	1543
Flight Navigator.....	1400	5	11	221	38	157	147	234	78	404	105
Flight Engineer.....	52519	344	1279	5559	6290	2533	6028	11430	6801	9485	2770
Flight Instructor Certificates—Total ⁴	61798	765	3181	8805	10551	2914	5979	10628	7770	10221	953
Instrument Ratings ⁵	273804	3492	12269	35565	40639	12321	24535	52137	34598	46913	11335

¹ Includes Outside U.S. total.² Outside U.S. includes airman certificated by the FAA who live outside the 50 states or foreign countries.³ Total ratings issued to date. These ratings retain their validity without periodic medical examinations.⁴ Not included in total.⁵ Special ratings shown on pilot certificates, do not indicate additional ratings.

TABLE 7.4

ESTIMATED ACTIVE PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE: DECEMBER 31, 1988

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Miscellaneous ²	Flight Instructor ³
Total	694,016	136,913	299,786	143,030	96,968	17,319	61,798
United States—Total	673,102	133,262	296,070	136,685	90,340	16,745	60,845
Alaskan Region—Total	10,191	1,718	4,853	2,491	1,011	113	765
Central Region—Total	34,932	5,949	17,937	7,136	3,382	528	3,181
Iowa	7,444	1,278	4,242	1,393	441	90	648
Kansas	7,416	1,393	4,960	2,002	930	131	856
Missouri	12,838	2,415	6,028	2,500	1,652	243	1,267
Nebraska	5,234	863	2,707	1,241	359	64	410
Eastern Region—Total	90,964	20,536	37,864	17,854	11,669	3,041	8,805
Delaware	1,664	345	688	335	259	37	196
District of Columbia	633	138	281	122	55	37	59
Maryland	9,990	2,107	4,483	1,936	1,181	283	916
New Jersey	14,426	3,202	5,887	2,573	2,273	491	1,432
New York	25,228	6,227	10,703	4,847	2,376	1,075	2,301
Pennsylvania	21,199	4,980	9,126	3,698	2,795	600	2,240
Virginia	15,338	2,954	5,480	3,899	2,549	456	1,439
West Virginia	2,486	583	1,216	444	181	62	222
Great Lakes Region—Total	115,271	23,381	56,764	21,086	12,169	1,871	10,551
Illinois	27,000	5,835	12,237	4,774	3,687	467	2,648
Indiana	12,463	2,634	6,269	2,335	1,055	170	1,169
Michigan	20,025	4,117	10,241	3,439	1,799	429	1,785
Minnesota	16,194	2,915	7,919	2,933	2,260	167	1,378
North Dakota	3,234	626	1,616	876	94	22	262
Ohio	22,194	4,526	11,022	4,110	2,076	460	2,134
South Dakota	2,532	459	1,272	605	170	26	215
Wisconsin	11,629	2,269	6,188	2,014	1,028	130	960
New England Region—Total	34,433	8,282	14,811	5,819	4,582	939	2,914
Connecticut	9,326	2,085	3,644	1,553	1,792	252	792
Maine	3,890	856	1,832	796	353	53	299
Massachusetts	12,966	3,497	5,862	2,062	1,150	395	1,094
New Hampshire	4,766	1,026	1,864	806	930	140	437
Rhode Island	1,608	346	783	274	159	46	120
Vermont	1,877	472	826	328	198	53	172
Northwest Mountain Region—Total	64,901	12,328	28,529	13,145	9,332	1,567	5,979
Colorado	17,695	3,828	6,560	3,464	3,283	560	1,823
Idaho	4,127	637	2,090	939	394	67	376
Montana	3,962	673	2,021	920	308	40	367
Oregon	9,830	1,743	5,222	1,979	678	208	825
Utah	5,469	1,072	2,457	997	814	129	473
Washington	21,772	3,990	9,083	4,453	3,712	534	1,947
Wyoming	2,046	385	1,096	393	143	29	168

TABLE 7.4—Continued

ESTIMATED ACTIVE PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE: DECEMBER 31, 1988

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Miscellaneous ²	Flight Instructor ³
Southern Region—Total..	117,731	22,928	46,663	25,807	19,330	2,983	10,628
Alabama.....	9,332	1,713	3,693	2,356	700	867	937
Florida.....	45,663	8,417	18,094	10,555	7,795	804	4,194
Georgia.....	18,333	3,400	6,524	3,722	4,377	310	1,473
Kentucky.....	5,796	1,216	2,594	1,012	813	161	533
Mississippi ..	4,645	963	1,856	1,367	360	99	379
North Carolina.....	15,025	3,289	6,204	2,982	2,194	356	1,229
South Carolina.....	6,947	1,575	2,864	1,625	748	135	646
Tennessee.....	11,990	2,355	4,834	2,188	2,362	251	1,237
Southwest Region—Total	82,964	15,005	34,948	18,549	12,552	1,910	7,770
Arkansas.....	6,143	1,226	2,844	1,536	461	76	522
Louisiana.....	8,267	1,490	3,355	2,220	906	296	730
New Mexico.....	5,056	1,067	2,154	1,160	475	200	465
Oklahoma.....	11,353	2,148	5,639	2,452	935	179	946
Texas.....	52,145	9,074	20,956	11,181	9,775	1,159	5,107
Western-Pacific Region—Total	121,715	23,135	53,696	24,798	16,293	3,793	10,252
Arizona.....	15,478	3,015	6,603	3,261	2,073	526	1,464
California.....	97,245	18,382	44,141	19,533	12,286	2,903	7,952
Hawaii.....	3,598	786	865	867	865	215	293
Nevada.....	5,394	952	2,087	1,137	1,069	149	543
Outside U. S. —Total⁴.....	20,914	3,651	3,716	6,345	6,628	574	953
Other U. S. Areas:.....	1,862	554	610	344	319	35	0
American Samoa.....	1 ¹	1	5	3	3	1	0
Canal Zone.....	1	1	0	0	0	0	0
Guam.....	121	18	30	22	49	2	0
Puerto Rico.....	1,417	467	468	247	205	30	0
Virgin Island.....	307	66	107	70	62	2	0
Wake Island.....	3	1	0	2	0	0	0

¹ Includes Outside U.S.² Includes helicopter, glider, and lighter-than-air.³ Not included in total.⁴ Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries.

TABLE 7.5

ESTIMATED ACTIVE WOMEN PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE. DECEMBER 31, 1988

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Miscellaneous ²	Flight Instructor ³
Total ¹	42,299	17,529	17,544	4,410	1,745	1,071	3,018
United States—Total	41,680	17,247	17,370	4,305	1,711	1,047	2,978
Alaskan Region—Total	818	324	388	81	20	5	43
Central Region—Total	1,889	736	901	167	55	30	117
Iowa	357	134	183	28	7	5	20
Kansas	536	185	284	46	15	6	32
Missouri	732	322	307	63	28	12	49
Nebraska	264	95	127	30	5	7	16
Eastern Region—Total	5,829	2,569	2,206	626	216	212	444
Delaware	96	45	31	9	8	3	8
District of Columbia	68	30	29	4	4	1	4
Maryland	700	274	299	76	33	18	45
New Jersey	864	371	314	111	33	35	72
New York	1,596	709	589	166	45	87	116
Pennsylvania	1,436	651	542	153	49	41	112
Virginia	937	421	353	96	43	24	81
West Virginia	132	68	49	11	1	3	6
Great Lakes Region—Total	6,947	2,855	2,967	746	261	118	537
Illinois	1,704	705	705	190	82	22	136
Indiana	694	275	302	78	26	13	57
Michigan	1,220	513	508	126	37	36	87
Minnesota	940	352	426	99	51	12	83
North Dakota	169	55	78	33	2	1	17
Ohio	1,428	627	578	149	45	29	107
South Dakota	124	59	52	7	4	2	4
Wisconsin	668	269	318	64	14	3	46
New England Region—Total	2,377	1,079	911	217	105	65	156
Connecticut	592	256	219	55	41	21	40
Maine	213	93	97	14	8	1	15
Massachusetts	976	485	349	93	28	21	58
New Hampshire	334	142	124	36	18	14	27
Rhode Island	119	38	68	8	3	2	6
Vermont	143	65	54	11	7	6	10
Northwest Mountain Region—Total	4,361	1,735	1,887	442	182	115	308
Colorado	1,284	566	451	141	72	54	121
Idaho	250	86	130	24	6	4	17
Montana	210	80	105	21	4	0	13
Oregon	698	251	356	60	16	15	39
Utah	261	107	115	19	12	8	13
Washington	1,544	600	674	165	71	24	101
Wyoming	114	45	56	12	1	0	4

TABLE 7.5—Continued

ESTIMATED ACTIVE WOMEN PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE: DECEMBER 31, 1988

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Miscellaneous ²	Flight Instructor ³
Southern Region—Total	6,270	2,781	2,400	644	326	119	445
Alabama.....	359	158	151	23	5	22	17
Florida.....	2,703	1,129	1,101	307	128	38	212
Georgia.....	841	387	317	77	46	14	52
Kentucky.....	299	146	102	31	17	3	25
Mississippi.....	222	114	76	22	5	5	14
North Carolina.....	800	367	296	76	44	17	52
South Carolina.....	378	202	114	35	20	7	22
Tennessee.....	668	278	243	73	61	13	51
Southwest Region—Total	4,540	1,897	1,889	455	182	117	317
Arkansas.....	289	124	124	28	3	1	21
Louisiana.....	343	149	134	43	11	6	31
New Mexico.....	389	167	133	42	15	32	33
Oklahoma.....	692	263	321	71	28	9	49
Texas.....	2,836	1,194	1,177	271	125	69	183
Western-Pacific Region—Total	8,649	3,271	3,821	927	364	266	611
Arizona.....	1,157	421	507	121	46	52	79
California.....	2,093	2,601	3,082	736	284	190	488
Hawaii.....	1,115	115	72	33	20	15	20
Nevada.....	1,154	134	160	37	14	9	24
Outside U. S. —Total⁴	119	282	174	105	34	24	40
Other U. S. Areas:	32	51	16	7	6	2	0
American Samoa.....	1	1	0	0	0	0	0
Canal Zone.....	0	0	0	0	0	0	0
Guam.....	13	7	3	1	2	0	0
Puerto Rico.....	49	35	8	2	2	2	0
Virgin Island.....	18	7	5	0	2	0	0
Wake Island.....	1	1	0	0	0	0	0

¹ Includes Outside U.S.² Includes helicopter, glider, and lighter-than-air.³ Not included in total.⁴ Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries.

TABLE 7.6

ESTIMATED ACTIVE HELICOPTER PILOTS BY CLASS OF CERTIFICATES DECEMBER 31, 1988

Class of Certificates	Number of Certificates Held
Total	31,349
Private Helicopter	1,143
Private Helicopter, Private Airplane	1,392
Private Helicopter, Private Airplane, Private Glider	60
Private Helicopter, Commercial Airplane	302
Private Helicopter, Commercial Airplane, Commercial Glider	24
Private Gyroplane	15
Private Gyroplane, Private Airplane	26
Commercial Helicopter	6,997
Commercial Helicopter, Private Helicopter	4,081
Commercial Helicopter, Private Glider	7
Commercial Helicopter, Commercial Glider	4
Commercial Helicopter, Private Airplane, Commercial Gyroplane	2
Commercial Helicopter, Private Airplane, Private Glider	32
Commercial Helicopter, Private Airplane, Commercial Glider	17
Commercial Helicopter, Commercial Airplane	14,346
Commercial Helicopter, Commercial Airplane, Private Glider	150
Commercial Helicopter, Commercial Airplane, Commercial Glider	562
Commercial Helicopter, Commercial Airplane, Commercial Gyroplane	22
Commercial Helicopter, Commercial Airplane, Commercial Gyroplane, Commercial Glider	13
Commercial Helicopter, Commercial Gyroplane	2
Commercial Gyroplane, Commercial Airplane	24
Commercial Gyroplane, Commercial Airplane, Commercial Glider	2
Airline Transport Helicopter	440
Airline Transport Airplane, Airline Transport Helicopter	1,686

TABLE 7.7

ESTIMATED ACTIVE GLIDER PILOTS BY CLASS OF CERTIFICATES DECEMBER 31, 1988

Class of Certificates	Number of Certificates Held
Total	19,095
Private Glider	6,528
Private Glider, Private Airplane	4,059
Private Glider, Private Airplane, Private Helicopter	60
Private Glider, Private Airplane, Commercial Helicopter	32
Private Glider, Commercial Airplane	2,063
Private Glider, Commercial Airplane, Commercial Helicopter	150
Private Glider, Commercial Helicopter	7
Commercial Glider	1,072
Commercial Glider, Commercial Airplane	3,703
Commercial Glider, Private Airplane	799
Commercial Glider, Private Airplane, Commercial Helicopter	17
Commercial Glider, Commercial Helicopter	4
Commercial Glider, Commercial Airplane, Private Helicopter	24
Commercial Glider, Commercial Airplane, Commercial Helicopter	562
Commercial Glider, Commercial Airplane, Commercial Gyroplane	2
Commercial Glider, Commercial Airplane, Commercial Gyroplane, Commercial Heli- copter	13

TABLE 7.8
ESTIMATED ACTIVE HELICOPTER AND GLIDER PILOTS DECEMBER 31, 1984-88

Calendar Year	Total Helicopter Pilots ¹		Total Glider Pilots ²	
	Number	Percent Change	Number	Percent Change
1988.....	31,349	(1)	19,095	(2)
1987.....	31,513	(1)	19,530	(4)
1986.....	31,697	2	20,355	0
1985.....	31,206	2	20,308	(2)
1984.....	30,507	0	20,733	2

¹ Includes pilots with ratings to fly helicopters only.

² Includes pilots with ratings to fly gliders only.

TABLE 7.9
ESTIMATED TOTAL PILOTS AND INSTRUMENT RATED PILOTS
DECEMBER 31, 1984-88

Calendar Year	Total Pilots ¹	Instrument Rated Pilots	
		Number	Percent of Total
1988.....	557,103	273,804	49
1987.....	553,637	266,122	48
1986.....	558,845	262,388	47
1985.....	562,888	258,559	46
1984.....	572,295	256,584	45

¹ Excludes student pilots.

TABLE 7.10

ESTIMATED ACTIVE PILOT CERTIFICATES HELD BY CATEGORY AND AGE GROUP OF HOLDER 1988, 1987, 1983

Age Group	Total Active Pilots			Student			Private			Commercial			Airline Transport		
	1988	1987	1983	1988	1987	1983	1988	1987	1983	1988	1987	1983	1988	1987	1983
Total.....	694,016	709,118	722,376	136,913	146,016	150,081	299,786	300,949	320,086	143,030	143,545	155,929	96,968	91,287	79,192
14-15.....	243	252	269	243	264	269	4,367	3,854	3,912	0	0	0	0	0	0
16-19.....	19,995	18,135	17,836	15,224	15,542	13,588	20,824	20,522	25,768	260	215	184	0	0	0
20-24.....	55,141	58,029	65,665	23,838	26,443	28,726	31,308	32,058	38,793	8,804	7,791	9,174	433	453	630
25-29.....	83,155	89,246	95,406	25,187	27,617	29,549	30,858	32,058	38,793	17,542	16,999	17,823	6,395	6,436	6,133
30-34.....	96,032	102,263	104,484	21,946	23,762	24,939	40,858	42,746	47,320	16,592	16,497	17,603	14,224	13,117	12,470
35-39.....	96,022	105,580	110,280	17,420	18,413	19,489	44,641	44,903	47,023	16,190	17,514	24,666	15,692	15,614	15,553
40-44.....	97,054	96,586	93,214	12,959	13,437	12,814	41,632	41,570	41,312	21,387	22,637	24,187	18,226	16,792	13,004
45-49.....	77,435	73,040	72,168	8,216	8,251	8,083	34,073	33,189	32,581	18,282	18,146	18,643	15,456	14,342	11,784
50-54.....	57,909	59,077	61,657	4,935	5,214	5,758	25,962	26,151	30,204	13,897	14,349	15,499	12,263	11,335	9,387
55-59.....	46,820	48,211	47,428	3,363	3,621	3,816	23,453	24,862	27,393	11,394	11,140	10,279	7,939	7,184	5,168
60 and over.....	62,510	58,699	53,969	3,582	3,452	3,050	32,668	31,094	25,780	18,682	18,357	17,871	6,340	6,014	6,063

TYPE OF PILOT CERTIFICATES

Age Group	Helicopter (Only)			Glider (Only)			Lighter-than-air ¹			Flight Instructor ²		
	1988	1987	1983	1988	1987	1983	1988	1987	1983	1988	1987	1983
Total.....	8,608	8,702	7,532	7,600	7,901	8,390	1,111	1,153	1,166	61,798	60,316	61,173
14-15.....	0	0	0	0	0	0	0	0	0	0	0	0
16-19.....	18	10	13	112	118	126	14	13	13	95	91	71
20-24.....	854	891	778	346	428	527	42	47	62	4,484	4,349	4,932
25-29.....	2,228	2,416	1,963	574	678	982	121	132	163	8,048	7,927	8,860
30-34.....	1,749	1,709	1,525	1,052	1,237	1,368	211	243	259	8,622	8,518	9,202
35-39.....	1,396	1,575	1,876	1,307	1,363	1,356	276	304	317	8,450	8,734	10,370
40-44.....	1,456	1,322	809	1,171	1,112	929	223	212	159	9,518	9,343	8,349
45-49.....	536	441	339	764	732	657	108	93	81	7,372	6,895	6,331
50-54.....	222	198	126	581	549	621	49	48	62	5,471	5,195	5,022
55-59.....	90	86	71	542	596	668	39	40	33	4,124	3,968	3,304
60 and over.....	59	54	32	1,151	1,088	1,156	28	21	17	5,614	5,296	4,732

¹ Glider and light-than-air pilots are not required to have a medical examination; however, totals above represent pilots who received a medical examination.² Not included in total active pilots.

TABLE 7.11

AVERAGE AGE OF ACTIVE PILOTS BY CATEGORY DECEMBER 31, 1979 - 1988

Year	Total ¹	Student	Private	Commercial	Airline Transport
1979.....	37.2	30.5	38.7	40.2	42.1
1980.....	37.5	30.5	39.0	40.4	41.9
1981.....	37.8	30.7	39.3	40.7	42.0
1982.....	38.3	31.2	39.5	41.0	42.3
1983.....	38.8	31.7	40.0	41.5	42.5
1984.....	39.2	32.1	40.4	42.0	42.7
1985.....	39.5	32.4	40.8	42.4	42.8
1986.....	39.7	32.6	41.1	42.6	43.0
1987.....	39.9	32.3	41.4	42.7	43.1
1988.....	40.1	32.5	41.4	42.6	43.2

¹ Includes helicopter (only), glider (only), and lighter-than-air pilots not shown separately.

TABLE 7.12

ESTIMATED INSTRUMENT RATING HELD BY CLASS OF CERTIFICATES DECEMBER 31, 1988 AND 1987

Class of Certificates	1988	1987	Percent Change 1988-1987
Total—All Pilots.....	273,804	266,122	3%
Private Pilots—Total.....	49,381	47,746	3%
Private Airplane (only).....	45,316	43,885	3%
Private Airplane, Private Glider.....	1,007	983	2%
Private Airplane, Commercial Glider.....	108	102	6%
Private Airplane, Private Helicopter.....	356	332	7%
Private Airplane, Private Glider, Private Helicopter.....	25	25	0%
Private Airplane, Commercial Helicopter.....	2,537	2,385	6%
Private Airplane, Private Gyroplane.....	3	3	0%
Private Airplane, Private Glider, Commercial Helicopter.....	15	21	-29%
Private Airplane, Commercial Glider, Commercial Helicopter.....	13	9	44%
Private Airplane, Other.....	1	1	0%
Commercial Pilots—Total.....	121,674	121,072	0%
Commercial Airplane (only).....	102,982	102,017	1%
Commercial Airplane, Private Glider.....	1,778	1,756	1%
Commercial Airplane, Commercial Glider.....	3,033	3,098	-2%
Commercial Airplane, Private Helicopter.....	264	234	13%
Commercial Airplane, Commercial Helicopter.....	12,911	13,250	-3%
Commercial Airplane, Private Glider, Commercial Helicopter.....	132	134	-1%
Commercial Airplane, Commercial Glider, Commercial Helicopter.....	506	526	-4%
Commercial Airplane, Commercial Gyroplane.....	15	15	0%
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane.....	18	15	20%
Commercial Airplane, Commercial Gyroplane, Commercial Glider.....	1	1	0%
Commercial Airplane, Commercial Glider, Private Helicopter.....	21	16	31%
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter Commercial Glider.....	13	10	30%
Airline Transport Pilots—Total.....	96,968	91,287	6%
Airline Transport Airplane (only).....	95,282	89,694	6%
Airline Transport Airplane, Airline Transport Helicopter.....	1,686	1,593	6%
	5,781	6,017	-4%
Rotorcraft Pilots—Total.....			
Commercial Helicopter.....	5,695	5,927	-4%
Airline Transport Helicopter.....	75	81	-7%
Other.....	11	9	22%

TABLE 7.13

ESTIMATED INSTRUMENT RATINGS HELD, BY CLASS OF CERTIFICATES, BY FAA REGION: DECEMBER 31, 1988

Class of Certificate	Total ¹	Alaskan	Central	Eastern	Great Lakes	New England	North-west Mountain	Southern	Southwest	Western Pacific	Outside U.S. ²
Total—All Pilots	273,804	3,492	12,269	35,565	40,639	12,321	24,535	52,137	34,598	46,913	11,335
Private Pilots—Total	49,381	359	2,711	6,966	9,601	2,476	3,782	8,421	5,622	9,073	370
Private Airplane (only)	45,316	299	2,502	6,334	9,101	2,298	3,430	7,479	5,117	8,417	339
Private Airplane, Private Glider	1,007	6	34	173	156	57	67	166	99	240	9
Private Airplane, Commercial Glider	108	2	3	18	13	14	20	5	12	21	0
Private Airplane, Private Helicopter	356	0	19	44	47	20	34	69	42	77	4
Private Airplane, Private Glider,											
Private Helicopter	25	0	0	6	4	2	2	3	2	6	0
Private Airplane, Commercial											
Helicopter	2,537	50	152	386	275	85	223	693	344	311	18
Private Airplane, Private Gyroplane	3	0	0	0	2	0	0	0	1	0	0
Private Airplane, Private Glider,											
Commercial Helicopter	15	1	1	1	0	0	5	4	3	0	0
Private Airplane, Commercial											
Glider, Commercial Helicopter	13	1	0	4	2	0	1	2	2	1	0
Private Airplane, Other	1	0	0	0	1	0	0	0	0	0	0
Commercial Pilots—Total	121,674	2,049	5,910	15,979	18,343	5,037	11,022	22,574	15,606	20,886	4,268
Commercial Airplane (only)	102,982	1,758	5,122	13,302	16,316	4,294	9,201	18,494	13,163	17,350	3,982
Commercial Airplane, Private Glider	1,778	20	82	281	238	71	183	301	195	386	21
Commercial Airplane, Commercial											
Glider	3,033	20	115	449	442	186	357	458	342	632	32
Commercial Airplane, Private											
Helicopter	264	4	10	40	51	10	21	42	35	43	8
Commercial Airplane, Commercial											
Helicopter	12,911	236	553	1,792	1,216	441	1,184	3,166	1,793	2,315	215
Commercial Airplane, Private Glider,											
Commercial Helicopter	132	1	6	23	22	6	10	24	14	24	2
Commercial Airplane, Commercial											
Glider, Commercial Helicopter	506	9	21	83	45	27	56	85	55	120	5
Commercial Airplane, Commercial											
Gyroplane	15	0	0	2	2	1	4	1	3	2	0
Commercial Airplane, Commercial											
Helicopter, Commercial Gyroplane	18	1	1	0	4	0	4	2	1	4	1
Commercial Airplane, Commercial											
Gyroplane, Commercial Glider	1	0	0	0	0	0	0	0	0	1	0
Commercial Airplane, Commercial											
Glider, Private Helicopter	21	0	0	5	5	1	1	0	3	5	1
Commercial Airplane, Commercial											
Gyroplane, Commercial Helicopter,											
Commercial Glider	13	0	0	2	2	0	1	1	2	4	1
Airline Transport Pilots—Total	96,968	1,011	3,382	11,669	12,169	4,582	9,332	19,350	12,552	16,293	6,628
Airline Transport Airplane (only)	95,282	972	3,343	11,371	12,026	4,467	9,198	19,018	12,287	16,024	6,576
Airline Transport Airplane,											
Airline Transport Helicopter	1686	39	39	298	143	115	134	332	265	269	52
Rotorcraft Pilots (only)—Total	5,781	73	266	951	526	226	399	1,792	818	661	69
Commercial Helicopter	5,695	72	265	939	516	222	394	1,779	797	650	61
Airline Transport Helicopter	75	1	0	10	10	3	5	12	19	8	7
Other	11	0	1	2	0	1	0	1	2	3	1

TABLE 7.14

ESTIMATED ACTIVE NONPILOT AIRMEN CERTIFICATES HELD, BY FAA REGION AND STATE: DECEMBER 31, 1988 ¹

FAA Region and State	Total Nonpilot Airmen	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Flight Navigator	Flight Engineer
Total ²	448,710	312,419	9,770	62,582	10,020	1,400	52,519
United States—Total	428,148	298,396	9,606	61,025	8,077	1,295	49,749
Alaskan Region—Total	4,524	3,151	154	712	158	5	344
Central Region—Total	22,221	17,239	426	3,114	152	11	1,279
Iowa	2,755	2,032	87	526	9	0	101
Kansas	6,187	4,789	109	926	42	4	317
Missouri	11,438	9,073	162	1,335	97	3	768
Nebraska	1,841	1,345	68	327	4	4	93
Eastern Region—Total	63,872	45,826	1,649	8,651	1,966	221	5,559
Delaware	1,149	814	25	155	14	6	135
District of Columbia	338	201	19	82	14	0	22
Maryland	4,150	2,538	138	823	57	13	581
New Jersey	11,163	7,755	242	1,368	372	64	1,362
New York	24,552	19,323	392	2,600	1,110	63	1,074
Pennsylvania	14,762	10,848	364	2,111	260	42	1,137
Virginia	6,796	3,692	423	1,301	145	33	1,202
West Virginia	962	655	46	211	4	0	46
Great Lakes Region—Total	58,437	40,032	1,227	9,887	963	38	6,290
Illinois	16,080	10,535	281	2,540	321	13	2,390
Indiana	5,826	4,139	191	976	68	4	448
Michigan	9,507	6,658	185	1,873	108	7	676
Minnesota	10,016	6,775	137	1,239	298	2	1,565
North Dakota	908	697	25	146	2	0	38
Ohio	10,794	7,665	260	2,026	115	6	722
South Dakota	942	664	22	201	3	1	51
Wisconsin	4,364	2,899	126	886	48	5	400
New England Region—Total	19,268	13,206	350	2,763	259	157	2,533
Connecticut	5,831	3,761	81	779	81	101	1,028
Maine	1,388	905	45	242	28	8	160
Massachusetts	8,547	6,633	165	1,079	94	13	563
New Hampshire	2,040	953	31	370	31	27	628
Rhode Island	823	562	18	156	10	3	74
Vermont	639	392	10	137	15	5	80
Northwest Mountain Region—Total	37,996	24,356	1,308	5,660	497	147	6,028
Colorado	11,680	7,102	158	1,797	193	27	2,403
Idaho	1,673	1,093	156	301	11	3	109
Montana	1,996	1,252	278	364	4	5	93
Oregon	4,111	2,870	238	681	38	28	256
Utah	2,881	1,816	79	401	16	4	565
Washington	14,656	9,473	366	1,961	225	77	2,554
Wyoming	999	750	33	155	10	3	48

TABLE 7.14—Continued

ESTIMATED ACTIVE NONPILOT AIRMEN CERTIFICATES HELD, BY FAA REGION AND STATE, DECEMBER 31, 1988 ¹

FAA Region and State	Total Nonpilot Airmen	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Flight Navigator	Flight Engineer
Southern Region—Total	77,950	51,822	1,869	10,725	1,870	234	11,430
Alabama.....	5,864	4,668	136	856	9	7	188
Florida.....	35,922	24,783	545	4,813	1,110	184	4,487
Georgia.....	15,892	10,161	288	1,523	304	12	3,604
Kentucky.....	2,804	1,709	158	461	90	0	386
Mississippi.....	1,703	1,184	42	344	8	3	122
North Carolina.....	7,014	4,144	439	1,161	147	15	1,108
South Carolina.....	2,645	1,641	93	545	23	5	338
Tennessee.....	6,106	3,532	168	1,022	179	8	1,197
Southwest Region—Total	58,717	41,834	991	8,266	747	78	6,801
Arkansas.....	2,370	1,673	72	440	16	2	167
Louisiana.....	4,586	3,425	90	656	43	5	367
New Mexico.....	2,105	1,405	66	483	22	3	126
Oklahoma.....	13,092	11,205	162	1,339	32	9	345
Texas.....	36,564	24,126	601	5,348	634	59	5,796
Western-Pacific Region—Total	85,163	60,930	1,632	11,247	1,465	404	9,485
Arizona.....	8,929	6,274	195	1,454	226	20	760
California.....	70,455	50,990	1,323	8,897	1,063	316	7,866
Hawaii.....	3,008	2,107	59	363	134	13	332
Nevada.....	2,771	1,559	55	533	42	55	527
Outside U. S. —Total ³	562	14,023	164	1,557	1,943	105	2,770
Other U. S. Areas:	1,557	1,174	34	197	62	0	90
American Samoa.....	11	7	0	3	0	0	1
Canal Zone.....	39	16	18	3	2	0	0
Guam.....	160	89	2	22	7	0	40
Puerto Rico.....	1,195	950	12	146	50	0	37
Virgin Island.....	143	103	2	23	3	0	12
Wake Island.....	9	9	0	0	0	0	0

¹ Data for flight engineers and flight navigators represent total active ratings held. Data for dispatchers, mechanics, parachute riggers and ground instructors represent total ratings issued to date. These ratings retain their validity.

² Includes Outside U. S.

³ Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries.

TABLE 7.15

ESTIMATED ACTIVE WOMEN NONPILOT CERTIFICATES HELD, BY FAA REGION AND STATE: DECEMBER 31, 1988 ¹

FAA Region and State	Total Nonpilot Women	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Flight Navigator	Flight Engineer
Total ²	7,842	2,565	441	3,391	622	1	822
United States—Total.....	7,733	2,550	435	3,339	597	0	812
Alaskan Region—Total.....	129	28	11	48	31	0	11
Central Region—Total.....	338	156	18	149	5	0	10
Iowa.....	74	39	2	32	1	0	0
Kansas.....	113	60	6	45	0	0	2
Missouri.....	124	52	7	53	4	0	8
Nebraska.....	27	5	3	19	0	0	0
Eastern Region—Total	1,006	234	82	442	140	0	108
Delaware.....	22	9	1	8	1	0	2
District of Columbia	10	0	1	5	1	0	3
Maryland.....	95	17	4	50	6	0	18
New Jersey.....	140	32	6	56	29	0	17
New York.....	338	92	13	137	74	0	22
Pennsylvania.....	228	47	25	108	23	0	25
Virginia.....	149	21	32	71	5	0	20
West Virginia.....	24	16	0	7	1	0	0
Great Lakes Region—Total	1,273	424	59	577	88	0	125
Illinois.....	364	124	14	152	22	0	52
Indiana.....	127	23	19	56	9	0	29
Michigan.....	214	60	6	122	13	0	13
Minnesota.....	162	60	5	52	23	0	22
North Dakota.....	14	2	0	8	1	0	3
Ohio.....	283	132	11	117	13	0	10
South Dakota.....	18	4	0	14	0	0	0
Wisconsin.....	91	19	4	56	7	0	5
New England Region—Total	355	115	14	162	22	0	42
Connecticut.....	122	47	4	40	9	0	22
Maine.....	26	5	1	17	2	0	1
Massachusetts.....	132	39	7	67	7	0	12
New Hampshire.....	49	19	1	20	3	0	6
Rhode Island.....	12	3	0	8	1	0	0
Vermont.....	14	2	1	10	0	0	1
Northwest Mountain Region—Total.....	746	256	29	321	34	0	106
Colorado.....	248	81	1	101	11	0	54
Idaho.....	30	8	2	16	3	0	1
Montana.....	35	8	5	21	1	0	0
Oregon.....	81	16	9	51	2	0	3
Utah.....	49	15	6	19	1	0	8
Washington.....	285	123	4	104	14	0	40
Wyoming.....	18	5	2	9	2	0	0

TABLE 7.15—Continued

ESTIMATED ACTIVE WOMEN NONPILOT CERTIFICATES HELD, BY FAA REGION AND STATE: DECEMBER 31, 1988 ¹

FAA Region and State	Total Nonpilot Women	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Flight Navigator	Flight Engineer
Southern Region—Total	1,390	380	122	580	127	0	181
Alabama.....	137	43	6	86	1	0	1
Florida.....	564	179	16	235	70	0	64
Georgia.....	166	53	11	58	14	0	30
Kentucky.....	87	23	9	30	15	0	10
Mississippi.....	24	5	1	17	0	0	1
North Carolina.....	175	32	41	74	8	0	20
South Carolina.....	59	11	4	28	3	0	13
Tennessee.....	178	34	34	52	16	0	42
Southwest Region—Total	990	373	48	434	55	0	80
Arkansas.....	30	9	0	18	0	0	3
Louisiana.....	89	40	2	38	7	0	2
New Mexico.....	68	16	3	41	3	0	5
Oklahoma.....	188	94	8	76	1	0	9
Texas.....	615	214	35	261	44	0	61
Western-Pacific Region—Total	1,506	584	52	626	95	0	149
Arizona.....	160	49	6	83	14	0	8
California.....	1,245	516	44	497	64	0	124
Hawaii.....	56	10	0	25	12	0	9
Nevada.....	45	9	2	21	5	0	8
Outside U. S.—Total ²	109	15	6	52	25	1	10
Other U. S. Areas:	15	6	0	5	1	0	3
American Samoa.....	0	0	0	0	0	0	0
Canal Zone.....	0	0	0	0	0	0	0
Guam.....	3	1	0	0	0	0	2
Puerto Rico.....	8	4	0	3	1	0	0
Virgin Island.....	4	1	0	2	0	0	1
Wake Island.....	0	0	0	0	0	0	0

¹ Data for flight engineers and flight navigators represent total active ratings held. Data for dispatchers, mechanics, parachute riggers and ground instructors represent total ratings issued to date. These ratings retain their validity.

² Includes Outside U. S.

³ Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries

TABLE 7.16

PILOT CERTIFICATES ISSUED, BY CATEGORY: CALENDAR YEARS 1984-1988

Category of Certificates	1984		1985		1986		1987		1988	
	Original	Additional	Original	Additional	Original	Additional	Original	Additional	Original	Additional
Pilot—Total	141,845	30,469	138,589	28,420	141,625	32,628	149,640	39,990	148,018	37,921
Student	90,167	0	86,060	0	88,699	0	85,611	0	86,193	0
Private	36,545	11,784	35,402	11,686	34,816	12,672	42,278	16,302	39,900	15,800
Commercial	7,702	8,892	8,404	7,197	8,889	9,241	11,314	11,365	12,042	10,597
Airline Transport	5,099	9,335	6,081	9,192	6,498	10,372	7,678	11,956	7,461	11,209
Helicopter (only)	1,808	319	2,105	207	2,209	234	2,217	293	1,947	287
Glider (only)	524	139	537	138	514	109	542	74	475	28
Nonpilot—Total *	15,438	4,808	16,432	4,713	16,470	5,010	21,878	5,486	21,317	6,422
Mechanic	10,719	4,042	10,559	3,429	10,998	3,289	15,089	4,195	14,907	4,353
Parachute Rigger	149	12	157	9	149	11	194	11	142	8
Ground Instructor	1,283	293	1,359	343	1,386	323	1,825	366	1,716	334
Dispatcher	755	3	622	3	516	1	533	3	510	2
Flight Navigator	14	0	1	0	17	0	4	0	270	315
Flight Engineer	2,518	458	3,734	929	3,404	1,386	4,233	911	3,772	1,410
Flight Instructor Certificates ¹	4,075	6,828	4,298	5,921	4,628	5,421	6,327	6,378	4,898	5,234
Instrument Ratings ²	0	10,845	0	11,673	0	13,688	0	18,296	0	16,810

* Preliminary

* Revised

NOTE: Additional ratings are entered on current airman certificates as follows: Private, commercial, and airline transport pilot—aircraft category, class, and type instrument rating. Helicopter pilot—instrument and type ratings. Flight instructor—ratings for each aircraft category in which the holder is qualified, and for instrument flying instructions. Mechanic—airframe and powerplant ratings. Parachute rigger—senior or master rigger—senior or master rigger ratings. Ground instructor—ratings for each subject in which the holder is qualified to give instruction.

¹ Not included in total.² Special ratings shown on pilot certificates represented above; not included in total.

TABLE 7.17
PILOT CERTIFICATES ISSUED, BY CATEGORY AND CONDUCTOR: DECEMBER 31, 1988

Category of Certificates	Total Ratings Issued	Original Issuances			Additional Ratings				
		Total	Examiner	Inspector	No Test	Total	Examiner	Inspector	No test
Pilot—Total	185,939	148,018	50,517	87,098	10,403	37,921	33,617	1,299	3,005
Student	86,193	86,193	0	86,193	0	0	0	0	0
Private	55,700	39,900	34,241	172	5,487	15,800	14,987	92	721
Commercial	22,639	12,042	8,550	119	3,373	10,597	8,890	90	1,617
Airline Transport	18,670	7,461	6,335	458	558	11,209	9,524	1,104	581
Helicopter (only)	2,234	1,947	938	38	971	287	189	13	85
Glider (only)	503	475	453	8	14	28	27	0	1
Nonpilot—Total	27,739	21,317	15,497	522	5,298	6,422	4,654	62	1,706
Mechanic	19,260	14,907	12,155	58	2,694	4,353	4,049	6	298
Parachute Rigger	150	142	82	10	50	8	7	1	0
Ground Instructor	2,050	1,716	126	28	1,562	334	26	1	307
Dispatcher	512	510	299	78	133	2	0	0	2
Flight Navigator	585	270	231	1	38	315	295	2	18
Flight Engineer	5,182	3,772	2,604	347	821	1,410	277	52	1,081
Flight Instructor Certificates *	10,132	4,898	3,898	951	49	5,234	5,080	139	15

* Preliminary

NOTE: Excludes Renewals

Additional ratings are entered on current airmen certificates as follows:

Private, commercial, and airline transport pilot—aircraft category, class, and type instrument rating.

Helicopter pilot—instrument and type ratings.

Flight instructor—ratings for each aircraft category in which the holder is qualified, and for instrument flying instructions.

Mechanic—airframe and powerplant ratings.

Parachute rigger—senior or master rigger ratings.

Ground instructor—ratings for each subject in which the holder is qualified to give instruction.

* Special ratings shown on pilot certificates represented above; not included in total

TABLE 7.18

INSTRUMENT RATINGS ISSUED: 1988, 1987, 1983

Class of Certificates	1988	1987	1983	Percent Change 1988-1987
Total—All Pilots	16,810	18,296	11,078	-8%
Private Pilots—Total.....	9,772	11,142	7,034	-12%
Private Airplane (only).....	8,946	10,397	6,549	-14%
Private Airplane, Private Glider.....	92	135	92	-32%
Private Airplane, Commercial Glider	18	12	5	50%
Private Airplane, Private Helicopter.....	40	35	20	14%
Private Airplane, Private Glider, Private Helicopter	0	1	1	-100%
Private Airplane, Commercial Helicopter	272	234	149	16%
Private Airplane, Other	404	328	218	23%
Commercial Pilots—Total	6,101	5,996	2,956	2%
Commercial Airplane (only).....	5,267	5,044	2,376	4%
Commercial Airplane, Private Glider	49	48	23	2%
Commercial Airplane, Commercial Glider	41	61	36	-33%
Commercial Airplane, Private Helicopter	11	14	5	-21%
Commercial Airplane, Commercial Helicopter	723	814	495	-11%
Commercial Airplane, Private Glider, Commercial Helicopter.....	3	7	4	-57%
Commercial Airplane, Commercial Glider, Commercial Helicopter	6	7	14	-14%
Commercial Airplane, Other	1	1	3	0%
Rotorcraft Pilots—Total	937	1,158	1,088	-19%
Commercial Helicopter.....	909	1,135	1,085	-20%
Commercial Helicopter, Airline Transport Helicopter.....	22	20	0	10%
Commercial Helicopter, Commercial Glider.....	0	1	1	
Commercial Helicopter, Other.....	6	2	2	200%

TABLE 7.19

STUDENT CERTIFICATES ISSUED, BY MONTH: 1984 - 1988

Month	1984	1985	1986	1987	1988
Total	93,239	90,167 ^r	86,060	88,706	84,958 ^P
January	6,511	7,485	6,414	6,641	6,098
February	6,146	6,338	5,233	5,590	6,543
March	7,724	7,086	6,809	6,472	7,125
April	6,737	6,931	7,492	7,488	7,139
May	7,650	7,784	7,749	7,415	6,164
June	9,344	8,533	8,279	8,211	8,491
July	9,253	9,202	9,249	9,648	8,973
August	10,426	9,559	8,892	8, 886	8,389
September	9,971	7,781	7,973	8,961	8,094 ^P
October	8,040	8,129	7,892	8, 133	7,537 ^P
November	6,500	6,291	5,579	5, 809	5,750 ^P
December	4,937	5,048	4,499	5, 452	4,655 ^P

^P Preliminary^r Revised

VIII. GENERAL AVIATION AIRCRAFT

General aviation aircraft activity information was obtained using the General Aviation Activity and Avionics Survey, which is mailed to the owners of a sample of registered general aviation aircraft. The sample is a scientifically designed random sample which represents all general aviation aircraft registered in the United States.

The survey collects data relative to flight hours, airframe hours and the avionics equipment on board the aircraft. In addition, the survey collects information about the number of hours flown under instrument flight rules, fuel consumption rates, and the state where the aircraft is based.

Because the estimates are derived from a sample—not the total population of aircraft—a certain amount of sampling error is introduced. The user must consider this error along with the estimate itself when making an inference or drawing any conclusions about the aircraft population. Although the exact value of the sample error is unknown, a quantity known as the standard error is used to approximate it. Using the standard error, one can develop an interval within which the true population estimate will lie with a known probability. The probability that the true value lies within the interval depends on the width of the interval, i.e., the estimate plus or minus 1, 2, or 3 times the standard error. The table below shows selected interval widths and their corresponding confidence.

Width of Interval	Approximate Confidence That Interval Includes true Value
1 standard error	68%
2 standard errors	95%
3 standard errors	99%

For example, if the estimate for the total number of active piston powered rotorcraft were 2,658 and the standard error was 176, then the 95% confidence interval would be $2,658 + 2(176)$ or (2306, 3010). One would say that there is a 95% chance that the number of active piston powered rotorcraft lies between 2306 and 3010.

In some tables, the standard error is expressed as a percent. To calculate the standard error, multiply the estimated by the percentage. To derive the 95% confidence interval, proceed as before. For example, if total hours flown were 35,792 thousand hours and the percentage standard error was 3.0%, the 95% confidence interval would be:

$$35,792 + (2 \times 3\% \times 35,792) = 35,792 (+, -) 2148 = (33,644: 37,940)$$

The standard error, percent standard error, or a code for the standard error is shown for each estimate made from the sample in this chapter.

More detailed estimates and more detailed discussion of the survey and its methodology are available in *General Aviation Activity and Avionics Survey*.

TABLE 8.1

ACTIVE GENERAL AVIATION AIRCRAFT BY AIRCRAFT TYPE AND PRIMARY USE: 1988 (Percent Standard Error is Shown in Parenthesis)

Aircraft Type	Total	Executive	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Air Carrier	Air Taxi	Other
Fixed-Wing—Total	197,003 (0.6%)	9,847 (4.1%)	34,340 (3.1%)	116,481 (1.1%)	15,871 (4.9%)	6,207 (3.9%)	3,685 (11.0%)	1,196 (19.3%)	858 (16.0%)	5,557 (7.6%)	2,939 (10.7%)
Piston—Total	187,556 (0.6%)	3,270 (11.1%)	33,495 (3.2%)	116,273 (1.1%)	15,851 (4.9%)	6,093 (4.9%)	3,664 (11.0%)	1,188 (19.4%)	451 (27.4%)	4,675 (8.7%)	2,574 (11.9%)
One Engine	164,766 (0.6%)	1,008 (21.5%)	24,874 (3.8%)	110,104 (1.1%)	14,835 (5.1%)	5,825 (3.9%)	3,156 (12.2%)	1,137 (20.0%)	77 (39.4%)	1,770 (15.4%)	1,974 (14.7%)
Two Engine	22,698 (1.4%)	2,262 (12.9%)	8,620 (5.5%)	6,167 (6.9%)	1,016 (17.8%)	245 (35.2%)	508 (23.5%)	51 (77.1%)	370 (32.3%)	2,850 (10.6%)	585 (19.7%)
Other Piston	99 (21.7%)	0 (0.0%)	0 (0.0%)	2 (302.1%)	0 (0.0%)	23 (0.0%)	0 (0.0%)	0 (0.0%)	4 (209.3%)	55 (28.7%)	15 (99.6%)
Turboprop—Total	5,259 (1.7%)	3,240 (4.8%)	648 (18.2%)	129 (42.6%)	9 (190.1%)	114 (24.6%)	14 (58.9%)	8 (125.4%)	402 (14.8%)	484 (19.7%)	212 (27.7%)
Two Engine	5,057 (1.8%)	3,229 (4.8%)	631 (18.6%)	95 (55.3%)	9 (190.1%)	10 (231.4%)	12 (57.1%)	8 (125.4%)	398 (14.9%)	484 (19.7%)	181 (31.1%)
Other Turboprop	202 (7.1%)	10 (99.2%)	17 (48.7%)	34 (48.4%)	0 (0.0%)	104 (15.9%)	1 (314.3%)	0 (0.0%)	4 (161.6%)	0 (0.0%)	31 (53.7%)
Turbojet—Total	4,187 (2.0%)	3,337 (2.8%)	197 (27.8%)	79 (28.3%)	11 (76.9%)	0 (0.0%)	7 (91.6%)	0 (0.0%)	5 (105.7%)	398 (17.4%)	153 (25.0%)
Two Engine	3,821 (2.1%)	3,067 (2.9%)	183 (29.4%)	72 (29.7%)	7 (85.1%)	0 (0.0%)	7 (91.6%)	0 (0.0%)	5 (105.7%)	395 (17.5%)	85 (38.7%)
Other Turbojet	367 (5.5%)	271 (7.8%)	14 (73.0%)	7 (93.2%)	4 (152.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (146.8%)	68 (28.7%)
Rotorcraft—Total	6,406 (3.6%)	991 (14.1%)	468 (19.8%)	935 (12.7%)	334 (19.3%)	835 (16.9%)	772 (18.3%)	238 (30.5%)	113 (55.1%)	962 (14.8%)	758 (19.1%)
Piston	2,584 (7.9%)	17 (54.9%)	212 (24.2%)	821 (12.8%)	294 (19.0%)	454 (25.0%)	404 (23.7%)	65 (66.8%)	5 (129.6%)	14 (76.8%)	298 (35.0%)
Turbine	3,822 (2.7%)	974 (14.3%)	256 (30.0%)	114 (48.1%)	40 (80.3%)	381 (21.9%)	369 (28.4%)	173 (33.7%)	108 (57.4%)	948 (15.0%)	460 (21.9%)
Other—Total	6,857 (4.1%)	44 (49.5%)	110 (58.8%)	5,141 (4.0%)	468 (23.2%)	0 (0.0%)	302 (38.8%)	407 (30.7%)	2 (126.1%)	0 (0.0%)	384 (26.2%)
Total All Aircraft	210,266 (0.5%)	10,882 (4.0%)	34,918 (3.1%)	122,557 (1.1%)	16,647 (4.8%)	7,042 (4.0%)	4,759 (9.3%)	1,841 (14.8%)	973 (15.5%)	6,518 (6.9%)	4,081 (8.8%)

TABLE 8.2

ACTIVE GENERAL AVIATION AIRCRAFT BY AIRCRAFT TYPE 1980 - 1988 (Standard Error is Shown in Parenthesis)

	1988	1987	1986	1985	1984	1983	1982	1981	1980
Fixed-Wing—Total.....	197,003 (0.6%)	204,067 (0.5%)	206,090 (0.5%)	197,974 (0.6%)	207,571 (0.5%)	200,831 (0.7%)	198,377 (0.6%)	201,201 (0.5%)	200,097 (0.5%)
Piston—Total	187,556 (0.6%)	194,455 (0.5%)	195,646 (0.6%)	188,191 (0.6%)	197,442 (0.5%)	191,480 (0.7%)	189,195 (0.6%)	193,370 (0.5%)	193,014 (0.5%)
One Engine.....	164,760 (0.6%)	171,035 (0.6%)	171,777 (0.6%)	164,385 (0.7%)	171,922 (0.5%)	166,247 (0.8%)	164,173 (0.7%)	167,898 (0.6%)	168,435 (0.5%)
Two Engine.....	22,698 (1.4%)	23,307 (1.3%)	23,721 (1.6%)	23,659 (1.5%)	25,258 (1.2%)	24,910 (1.4%)	24,882 (1.4%)	25,356 (1.2%)	24,366 (1.2%)
Other Piston	99 (21.7%)	112 (25.0%)	148 (24.3%)	148 (20.9%)	262 (13.4%)	143 (9.8%)	140 (17.1%)	114 (25.4%)	212 (8.0%)
Turboprop—Total	5,259 (1.7%)	5,274 (1.9%)	5,964 (1.9%)	5,407 (2.1%)	5,809 (1.0%)	5,453 (1.7%)	5,186 (1.2%)	4,660 (1.1%)	4,090 (1.1%)
Two Engine.....	5,057 (1.8%)	5,060 (1.9%)	5,779 (1.9%)	5,240 (2.1%)	5,633 (1.0%)	5,311 (1.6%)	5,037 (1.1%)	4,525 (1.1%)	3,966 (1.1%)
Other Turboprop	202 (7.1%)	214 (8.9%)	185 (16.2%)	167 (7.8%)	176 (8.5%)	142 (26.8%)	149 (18.8%)	134 (3.7%)	123 (8.1%)
Turbojet—Total.....	4,187 (2.0%)	4,338 (1.5%)	4,480 (2.2%)	4,375 (1.7%)	4,320 (1.6%)	3,898 (3.3%)	3,996 (2.8%)	3,171 (2.3%)	2,992 (1.3%)
Two Engine.....	3,821 (2.1%)	3,900 (1.6%)	4,037 (1.6%)	3,914 (1.7%)	3,780 (1.3%)	3,447 (2.7%)	3,309 (2.5%)	2,808 (2.4%)	2,551 (1.5%)
Other Turbojet.....	367 (5.5%)	438 (5.0%)	444 (16.2%)	460 (7.2%)	540 (26.9%)	451 (20.2%)	687 (10.6%)	362 (6.4%)	441 (2.9%)
Rotorcraft—Total.....	6,406 (3.6%)	6,333 (3.2%)	6,943 (3.1%)	6,418 (4.0%)	7,096 (3.1%)	6,540 (3.7%)	6,169 (3.7%)	6,974 (2.7%)	6,001 (2.4%)
Piston	2,584 (7.9%)	2,813 (5.0%)	2,921 (6.0%)	2,877 (7.0%)	2,936 (6.3%)	2,541 (7.5%)	2,419 (7.4%)	3,250 (5.3%)	2,794 (4.8%)
Turbine	3,822 (2.7%)	3,520 (4.2%)	4,022 (3.1%)	3,541 (4.5%)	4,160 (2.8%)	3,998 (3.8%)	3,749 (3.7%)	3,724 (2.0%)	3,207 (1.5%)
Other—Total.....	6,857 (4.1%)	6,783 (3.4%)	7,010 (3.0%)	6,263 (3.3%)	6,275 (2.7%)	5,923 (3.5%)	5,233 (4.0%)	5,049 (3.5%)	4,945 (2.9%)
Total All Aircraft.....	210,266 (0.5%)	217,183 (0.5%)	220,044 (0.5%)	210,654 (0.6%)	220,943 (0.5%)	213,293 (0.6%)	209,779 (0.6%)	213,226 (0.5%)	211,045 (0.4%)

NOTE: Columns may not add to totals due to rounding and estimation procedures.

TABLE 8.3

ACTIVE: GENERAL AVIATION AIRCRAFT TOTAL HOURS FLOWN, BY AIRCRAFT TYPE AND PRIMARY USE: 1988 (Percent Standard Error is Shown in Parenthesis)

Aircraft Type	Total	Executive	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Air Carrier	Air Taxi	Other
Fixed-Wing—Total	30,273,750 (1.8%)	3,193,274 (4.8%)	4,874,572 (4.4%)	10,434,860 (2.6%)	5,110,213 (7.0%)	1,766,633 (6.1%)	1,018,344 (16.1%)	264,512 (21.1%)	986,625 (16.4%)	2,219,906 (8.6%)	404,819 (12.4%)
Piston—Total	26,226,054 (2.0%)	781,039 (11.9%)	4,589,549 (4.5%)	10,412,910 (2.6%)	5,107,276 (7.0%)	1,704,029 (6.2%)	1,013,169 (16.1%)	257,727 (21.4%)	335,914 (28.3%)	1,719,346 (10.1%)	305,098 (14.7%)
One Engine	21,946,450 (2.2%)	240,851 (22.3%)	3,205,181 (5.6%)	9,763,187 (2.7%)	4,914,638 (7.2%)	1,630,893 (6.3%)	916,253 (17.6%)	250,457 (22.0%)	67,106 (40.2%)	709,953 (18.0%)	247,938 (17.2%)
Two Engine	4,257,404 (4.1%)	540,188 (14.2%)	1,384,369 (7.5%)	649,638 (9.8%)	192,638 (20.8%)	71,995 (35.1%)	96,916 (30.3%)	7,270 (67.4%)	265,294 (33.2%)	992,005 (11.3%)	57,090 (24.9%)
Other Piston	22,199 (44.5%)	0 (0.0%)	0 (0.0%)	85 (302.1%)	0 (0.0%)	1,142 (142.2%)	0 (0.0%)	0 (0.0%)	3,513 (209.3%)	17,388 (35.3%)	71 (102.8%)
Turboprop—Total	2,369,948 (5.0%)	1,066,279 (6.6%)	194,540 (19.4%)	11,714 (40.8%)	2,748 (191.7%)	62,604 (26.4%)	3,455 (57.5%)	6,785 (148.2%)	647,906 (16.3%)	306,331 (19.5%)	67,587 (28.7%)
Two Engine	2,286,078 (5.1%)	1,060,833 (6.6%)	187,315 (19.9%)	9,994 (54.3%)	2,748 (191.7%)	3,220 (231.4%)	3,195 (55.6%)	6,785 (148.2%)	645,575 (16.5%)	306,331 (19.5%)	60,082 (32.1%)
Other Turboprop	83,869 (14.9%)	5,446 (107.6%)	1,225 (45.7%)	1,720 (48.5%)	0 (0.0%)	59,384 (18.7%)	260 (314.3%)	0 (0.0%)	2,330 (161.6%)	0 (0.0%)	7,505 (59.7%)
Turbojet—Total	1,677,752 (4.4%)	1,345,955 (5.0%)	90,484 (30.2%)	10,237 (37.5%)	189 (105.6%)	0 (0.0%)	1,720 (92.0%)	0 (0.0%)	2,805 (105.7%)	194,228 (19.5%)	32,134 (36.8%)
Two Engine	1,548,225 (4.7%)	1,233,023 (5.4%)	84,936 (32.2%)	10,051 (42.5%)	14 (85.1%)	0 (0.0%)	1,720 (92.0%)	0 (0.0%)	2,805 (105.7%)	193,028 (19.6%)	22,647 (48.5%)
Other Turbojet	129,528 (10.9%)	112,932 (12.2%)	5,548 (72.6%)	186 (90.9%)	175 (152.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1,200 (146.8%)	9,487 (68.3%)
Rotorcraft—Total	2,706,719 (6.5%)	551,174 (21.1%)	78,811 (27.8%)	59,084 (20.5%)	136,110 (21.4%)	222,079 (19.6%)	354,965 (22.9%)	140,333 (35.7%)	131,461 (55.0%)	621,811 (21.1%)	410,891 (22.8%)
Piston	575,955 (11.6%)	2,813 (59.0%)	20,101 (30.3%)	48,665 (22.9%)	129,129 (21.5%)	94,523 (28.3%)	185,640 (29.0%)	10,164 (66.0%)	1,185 (131.5%)	5,392 (103.8%)	78,343 (43.5%)
Turbine	2,130,764 (7.6%)	548,361 (21.3%)	58,710 (44.8%)	10,419 (49.2%)	6,981 (60.0%)	127,556 (26.2%)	169,324 (36.1%)	130,170 (38.3%)	130,277 (57.6%)	616,419 (21.4%)	332,548 (26.1%)
Other—Total	612,998 (24.2%)	3,999 (45.6%)	6,747 (59.5%)	319,393 (19.4%)	63,019 (29.2%)	0 (0.0%)	38,417 (51.0%)	161,811 (88.3%)	81 (126.1%)	0 (0.0%)	19,533 (30.7%)
Total All Aircraft	33,593,468 (1.7%)	3,748,447 (5.1%)	4,960,129 (4.3%)	10,813,337 (2.6%)	5,309,342 (6.8%)	1,988,712 (5.9%)	1,411,725 (13.1%)	566,656 (27.2%)	1,118,167 (15.8%)	2,841,717 (8.1%)	835,242 (10.7%)

TABLE 8.4

ACTIVE GENERAL AVIATION AIRCRAFT TOTAL HOURS FLOWN, BY AIRCRAFT TYPE 1980 - 1978 (Hours in Thousands) (Standard Error is Shown in Parenthesis)

	1988	1987	1986	1985	1984	1983	1982	1981	1980
Fixed-Wing --Total	30,274 (1.8%)	30,744 (1.7%)	31,397 (1.7%)	31,495 (1.7%)	33,265 (2.1%)	32,558 (2.1%)	33,728 (1.9%)	37,628 (1.7%)	38,318 (1.7%)
Piston--Total	26,226 (2.0%)	27,039 (1.9%)	26,861 (1.9%)	27,793 (1.9%)	29,194 (1.8%)	28,911 (2.3%)	29,950 (2.2%)	34,086 (1.8%)	34,747 (1.8%)
One Engine.....	21,946 (2.2%)	22,141 (2.0%)	21,939 (2.1%)	22,851 (2.1%)	23,506 (2.1%)	23,149 (2.6%)	24,259 (2.5%)	27,692 (2.1%)	28,339 (2.1%)
Two Engine.....	4,257 (4.1%)	4,883 (5.2%)	4,911 (4.6%)	4,915 (4.1%)	5,585 (3.0%)	5,730 (5.3%)	5,657 (4.7%)	6,369 (3.3%)	6,277 (3.6%)
Other Piston	22 (44.5%)	15 (33.3%)	11 (45.5%)	26 (34.6%)	102 (29.4%)	32 (31.2%)	33 (30.3%)	25 (24.0%)	130 (13.8%)
Turboprop--Total	2,370 (5.0%)	2,177 (5.0%)	2,882 (5.1%)	2,080 (4.6%)	2,506 (4.7%)	2,173 (7.1%)	2,168 (6.7%)	2,155 (3.8%)	2,240 (3.5%)
Two Engine.....	2,286 (5.1%)	1,994 (5.0%)	2,797 (5.3%)	2,016 (4.8%)	2,452 (4.7%)	2,090 (7.2%)	2,096 (6.8%)	2,092 (3.9%)	2,138 (3.6%)
Other Turboprop	84 (14.9%)	183 (24.6%)	85 (14.1%)	64 (10.9%)	54 (25.9%)	83 (37.3%)	71 (28.2%)	63 (17.5%)	56 (17.9%)
Turbojet--Total	1,678 (4.4%)	1,528 (3.9%)	1,654 (4.7%)	1,622 (4.4%)	1,566 (4.7%)	1,473 (6.6%)	1,611 (6.8%)	1,387 (3.6%)	1,332 (4.4%)
Two Engine.....	1,548 (4.7%)	1,421 (4.2%)	1,566 (4.9%)	1,461 (4.8%)	1,328 (5.0%)	1,350 (6.8%)	1,247 (7.3%)	1,238 (3.9%)	1,163 (4.5%)
Other Turbojet	130 (10.9%)	107 (10.3%)	98 (19.4%)	161 (10.6%)	237 (13.9%)	124 (25.0%)	264 (17.4%)	149 (10.7%)	169 (16.0%)
Rotorcraft--Total	2,707 (6.5%)	2,283 (7.4%)	2,625 (6.7%)	2,155 (7.7%)	2,495 (5.5%)	2,271 (7.0%)	2,350 (6.6%)	2,685 (6.9%)	2,338 (5.9%)
Piston	576 (11.6%)	652 (9.2%)	804 (12.8%)	564 (15.1%)	592 (11.3%)	572 (8.6%)	579 (10.0%)	930 (11.6%)	736 (10.2%)
Turbine	2,131 (7.6%)	1,631 (9.6%)	1,821 (7.7%)	1,590 (8.9%)	1,903 (6.4%)	1,700 (8.9%)	1,771 (8.2%)	1,754 (8.6%)	1,603 (7.2%)
Other--Total	613 (24.2%)	416 (6.0%)	394 (7.6%)	4 (8.2%)	358 (6.7%)	420 (11.7%)	379 (10.6%)	391 (8.7%)	359 (5.8%)
Total All Aircraft	33,593 (1.7%)	33,443 (1.7%)	34,416 (1.6%)	34,063 (1.6%)	36,119 (1.6%)	35,249 (2.0%)	36,457 (1.9%)	40,704 (1.6%)	41,016 (1.6%)

NOTE: Columns may not add to totals due to rounding and estimation procedures.

TABLE 8.5

ACTIVE GENERAL AVIATION AIRCRAFT AVERAGE HOURS FLOWN, BY AIRCRAFT TYPE 1980 - 1988 (Standard Error is Shown in Parenthesis)

	1988	1987	1986	1985	1984	1983	1982	1981	1980
Fixed-Wing—Total	148.0 (1.8%)	145.6 (1.7%)	145.1 (1.7%)	155.5 (1.7%)	156.0 (1.7%)	160.9 (2.1%)	170.6 (2.0%)	184.4 (1.7%)	187.7 (1.7%)
Piston—Total	138.2 (1.9%)	136.9 (1.8%)	135.4 (1.8%)	147.1 (1.8%)	147.1 (1.8%)	150.6 (2.3%)	159.8 (2.1%)	175.4 (1.8%)	178.2 (1.7%)
One Engine.....	133.4 (2.2%)	129.4 (2.0%)	127.8 (2.0%)	139.5 (2.0%)	137.7 (2.0%)	139.1 (2.5%)	149.1 (2.4%)	165.8 (2.1%)	168.2 (2.0%)
Two Engine.....	181.1 (3.5%)	202.9 (5.1%)	204.4 (4.4%)	207.6 (3.8%)	218.2 (3.2%)	230.5 (5.2%)	230.6 (4.6%)	251.1 (3.1%)	254.8 (3.3%)
Other Piston	225.3 (42.2%)	140.2 (22.7%)	111.1 (45.4%)	184.2 (27.0%)	433.4 (24.8%)	240.4 (13.4%)	246.8 (15.9%)	197.0 (1.8%)	625.4 (6.2%)
Turboprop—Total	447.9 (4.5%)	388.9 (4.7%)	422.9 (4.5%)	362.0 (4.2%)	414.2 (4.4%)	389.4 (6.3%)	396.3 (6.4%)	470.1 (3.8%)	433.4 (3.7%)
Two Engine.....	450.3 (4.6%)	374.2 (4.7%)	420.6 (4.6%)	360.7 (4.4%)	416.0 (4.5%)	386.3 (6.5%)	394.4 (6.6%)	469.4 (3.9%)	534.8 (3.1%)
Other Turboprop	392.0 (16.7%)	830.9 (24.5%)	498.8 (13.8%)	396.5 (6.0%)	339.3 (17.2%)	578.5 (22.7%)	473.0 (17.8%)	498.8 (18.5%)	487.4 (15.0%)
Turbojet—Total	405.0 (3.8%)	356.2 (3.6%)	353.8 (4.8%)	368.7 (4.0%)	353.6 (4.0%)	382.2 (5.9%)	404.0 (6.2%)	436.3 (2.9%)	443.6 (3.7%)
Two Engine.....	412.0 (4.1%)	371.5 (3.8%)	385.0 (4.8%)	374.6 (4.4%)	348.6 (4.1%)	391.6 (6.2%)	407.0 (6.8%)	422.6 (3.2%)	456.1 (4.0%)
Other Turbojet.....	346.5 (10.4%)	229.2 (9.6%)	153.8 (28.0%)	325.1 (5.8%)	392.6 (14.7%)	273.7 (14.7%)	385.3 (13.5%)	376.5 (6.0%)	349.9 (8.3%)
Rotorcraft—Total	423.3 (6.2%)	359.3 (7.0%)	380.2 (6.3%)	336.1 (6.8%)	343.6 (5.4%)	350.2 (6.3%)	383.2 (5.7%)	390.8 (6.7%)	382.4 (5.4%)
Piston	227.9 (9.0%)	228.9 (7.8%)	273.2 (11.1%)	191.6 (12.8%)	186.8 (9.7%)	221.1 (6.8%)	236.8 (8.0%)	285.3 (10.3%)	262.9 (7.9%)
Turbine	576.7 (7.6%)	485.4 (9.5%)	459.4 (7.6%)	460.3 (8.0%)	468.7 (6.4%)	431.6 (8.0%)	474.2 (7.1%)	489.5 (8.7%)	497.7 (7.1%)
Other—Total	95.2 (25.1%)	62.0 (5.5%)	56.2 (7.5%)	67.1 (7.6%)	56.5 (6.4%)	71.1 (11.3%)	72.4 (9.9%)	78.4 (8.0%)	75.0 (5.2%)
Total All Aircraft	153.6 (1.7%)	148.4 (1.6%)	148.9 (1.6%)	158.2 (1.6%)	158.1 (1.6%)	164.0 (2.0%)	174.0 (3.3%)	188.1 (3.1%)	190.5 (3.0%)

NOTE: Columns may not add to totals due to rounding and estimation procedures.

TABLE 8.6

ACTIVE GENERAL AVIATION AIRCRAFT AND HOURS FLOWN BY FAA REGION AND STATE OF BASED
AIRCRAFT 1988

FAA Region & State	Active Aircraft		Hours Flown	
	Aircraft	Standard Error	Hours (000)	Standard Error
Total	210,266	0.5%	33,593	1.7%
Alaskan Region—Total.....	6,309	7.3%	986	9.4%
Central—Total	12,150	5.9%	1,985	9.1%
Iowa.....	2,615	13.0%	368	19.8%
Kansas.....	3,500	11.1%	760	18.7%
Missouri.....	4,068	10.3%	602	12.1%
Nebraska.....	1,967	15.0%	255	18.4%
Eastern—Total.....	23,927	4.0%	3,848	5.2%
Delaware.....	1,112	19.4%	165	25.7%
District of Columbia.....	35	102.9%	11	118.4%
Maryland.....	3,032	12.1%	452	15.1%
New Jersey.....	3,755	10.8%	608	12.1%
New York.....	5,804	8.6%	1,024	10.2%
Pennsylvania.....	5,808	8.6%	881	10.4%
Virginia.....	3,291	11.5%	551	14.8%
West Virginia.....	1,091	20.6%	158	26.9%
Great Lakes—Total.....	37,435	3.1%	5,327	4.3%
Illinois.....	7,276	7.7%	997	9.0%
Indiana.....	4,229	10.2%	562	11.8%
Michigan.....	6,771	8.1%	937	11.1%
Minnesota.....	5,040	9.3%	614	13.1%
North Dakota.....	1,487	17.4%	168	21.5%
Ohio.....	7,388	7.6%	1,278	8.9%
South Dakota.....	1,192	19.6%	142	29.6%
Wisconsin.....	4,053	10.3%	629	13.3%
New England—Total.....	9,600	6.7%	1,405	9.5%
Connecticut.....	2,231	14.4%	353	18.0%
Maine.....	1,307	18.1%	203	29.3%
Massachusetts.....	3,687	11.2%	550	15.5%
New Hampshire.....	1,270	18.0%	140	23.2%
Rhode Island.....	486	31.3%	100	38.0%
Vermont.....	619	26.8%	59	32.3%
Northwest Mountain—Total.....	19,914	4.5%	2,906	6.3%
Colorado.....	3,782	11.2%	661	13.6%
Idaho.....	1,836	15.5%	254	20.9%
Montana.....	1,808	15.8%	198	20.5%
Oregon.....	4,126	10.3%	614	13.1%
Utah.....	1,246	19.1%	247	24.6%
Washington.....	6,281	8.3%	828	11.6%
Wyoming.....	835	23.1%	104	32.5%

TABLE 8.6—Continued

ACTIVE GENERAL AVIATION AIRCRAFT AND HOURS FLOWN BY FAA REGION AND STATE OF BASED
AIRCRAFT 1988

FAA Region & State	Active Aircraft		Hours Flown	
	Aircraft	Standard Error	Hours (000)	Standard Error
Southern—Total.....	34,630	3.3%	6,001	4.3%
Alabama.....	2,539	13.2%	411	16.5%
Florida.....	13,831	5.5%	2,468	6.7%
Georgia.....	4,974	9.3%	755	11.7%
Kentucky.....	1,740	15.7%	307	17.5%
Mississippi.....	1,897	14.9%	490	17.6%
North Carolina.....	4,688	9.8%	719	12.4%
Puerto Rico.....	72	76.4%	9	107.5%
South Carolina.....	1,988	15.2%	314	19.1%
Tennessee.....	2,900	12.4%	508	14.6%
Southwest—Total.....	29,506	3.6%	5,217	4.8%
Arkansas.....	2,354	13.4%	431	16.6%
Louisiana.....	3,250	11.4%	973	13.0%
New Mexico.....	2,224	14.4%	367	21.1%
Oklahoma.....	4,254	10.2%	676	12.5%
Texas.....	17,424	4.8%	2,771	6.1%
Western-Pacific—Total.....	36,794	3.1%	5,678	4.4%
Arizona.....	5,118	9.1%	827	12.1%
California.....	28,910	3.6%	4,175	4.3%
Hawaii.....	600	25.5%	426	31.3%
Nevada.....	2,074	14.4%	250	24.6%
Other U. S. Territories.....	92	68.5%	19	75.3%

NOTE: Column totals may differ from printed totals due to estimation procedures.

IX. AIRCRAFT ACCIDENTS

The data presented in this chapter were obtained from the National Transportation Safety Board.

The Safety Board's statistics categorize aviation accidents according to the Federal Air Regulations under which the accident flights were made. The groupings are:

- Large airlines in scheduled service under Part 121 of the regulations
- Commuter carriers in scheduled service under Part 135
- "On-demand" air taxis in unscheduled operations under Part 135, and
- General aviation—all other civil flying.

See Glossary under "Aircraft Accident: for NTSB definitions for the following terms: "Fatal Injury", "Operator", "Serious Injury", and "Substantial Damage".

More detailed accident data may be obtained from the National Transportation Safety Board.

TABLE 9.1

AIR CARRIER AND GENERAL AVIATION AIRCRAFT ACCIDENTS AND FATALITIES (Preliminary Data) 1988

Air Carrier and General Aviation Operations	Number of Accidents		Number of Fatalities
	Total	Total	
Air Carriers			
Air Carriers Operating under 14 CFR 121 ¹			
Scheduled	29	3	285
Nonscheduled.....	1	0	0
Air Carriers Operating under 14 CFR 135			
Scheduled ²	20	2	21
Nonscheduled ³	97	28	57
General Aviation ⁴	2,332	438	782

¹ Airlines.² Commuters.³ On-Demand Air Taxis.⁴ Includes accidents involving aircraft flown under rules other than 14 CFR 121 and CFR 135.

Source: National Transportation Safety Board.

TABLE 9.2

AIRLINES (Air Carriers Operating Under 14 CFR 121) ACCIDENTS, FATALITIES, AND RATES
(Preliminary Data) 1988

	Scheduled	Non-scheduled
Accidents		
Total	29	1
Fatal.....	3	0
Fatalities	285	0
Aircraft Hours Flown (000) ¹	10,199	535
Departures (000) ¹	7,200	289
Accident Rate Per 100,000		
Hours Flown		
Total.....	0.28	0.19
Fatal	0.02	0.00
Accident Rate Per 100,000		
Departures		
Total.....	0.39	0.35
Fatal	0.03	0.00

¹ Exposure data estimate source. Research and Special Programs Administration and FAA.

Source: National Transportation Safety Board.

TABLE 9.3

AIRLINES (Air Carriers Operating under 14 CFR 121) FATAL ACCIDENTS, FATALITIES (Preliminary Data) 1988

Location	Operator	Date	Service	Aircraft	Total	Fatalities			Total Aboard	Reported Type of Accident
						Passenger	Crew	Others		
SCHEDULED SERVICE										
Total					285	256	18	11	462	
Maui, HI	Aloha Airlines	4/28	Psgr	B-737	1	0	1	0	95	Portion of top of fuselage tore away in flight.
Dallas, TX	Delta Airlines	8/31	Psgr	B-727	14	12	2	0	108	Crashed shortly after take-off.
Lockerbie, Scotland	Pan American	12/21	Psgr	B-747	270	244	15	11	259	Suspected sabotage.
NONSCHEDULED SERVICE										
Total	0	0	0	0	0					
None										

Source: National Transportation Safety Board.

TABLE 9.4

AIRLINES. SCHEDULED AND NONSCHEDULED SERVICE *ACCIDENTS, FATALITIES AND RATES (U.S. Air Carriers Operating Under 14 CFR 121) 1979 - 1988

	1979	1980	1981	1982	1983	1984	1985	1986	1987 ^r	1988 ^p
Accidents										
Total.....	29	19	26	19	24	16	22	23	38	30
Fatal.....	5	1	4	4	4	1	7	2	5	3
Total Fatalities.....	354	1	4	234	15	4	526	4	232	285
Aircraft Hours Flown (000) ¹	6,879	7,380	7,126	7,040	7,299	8,165	8,710	9,924	10,500	10,734
Aircraft Miles Flown (000,000) ¹	2,859	3,044	2,921	2,939	3,069	3,428	3,631	4,056	4,372	4,404
Departures (000) ¹	5,486	5,729	5,575	5,351	5,444	5,899	6,307	7,243	7,449	7,489
Accident Rate Per 100,000 Hours Flown										
Total.....	0.42	0.26	0.36	0.27	0.33	0.20	0.25	0.23	0.35	0.27
Fatal.....	0.07	0.01	0.06	0.06	0.06	0.01	0.08	0.02	0.04	0.02
Accident Rate Per Million Miles Flown										
Total.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fatal.....	0.00 ²	0.00 ²	0.00 ²	0.00 ²	0.00 ²	0.00 ²	0.00 ²	0.00 ²	0.00 ²	0.00 ²
Accident Rate Per 100,000 Departures										
Total.....	0.53	0.33	0.47	0.36	0.44	0.27	0.35	0.32	0.50	0.39
Fatal.....	0.09	0.02	0.07	0.08	0.07	0.02	0.11	0.03	0.05	0.03

* Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during scheduled 14 CFR 121 operations.

Source: National Transportation Safety Board

¹ Exposure data estimate source: Research and Special Programs Administration.

² Rounds to 0.00.

^r Revised.

^p Preliminary.

NOTE: The following suicide/sabotage cases are included in "Accidents" and "Fatalities" but not in "Accident Rates":

Date	Location	Operator	Total	Aboard
8/11/82	Honolulu, HI	Pan American	1	1
4/02/86	Near Athens, Greece	Trans World	4	4
12/07/87	San Louis, Obispo, CA	Pacific Southwest	43	43
12/21/88	Lockerbie, Scotland	Pan American	270	259

TABLE 9.5

AIRLINES. SCHEDULED SERVICE * ACCIDENTS, FATALITIES AND RATES (U.S. Air Carriers Operating Under 14 CFR 121) 1979 - 1988

	1979	1980	1981	1982	1983	1984	1985	1986	1987 *	1988 *
Accidents										
Total.....	23	15	25	16 *	22	13 *	17	21 *	33	29
Fatal.....	4	0	4	4 *	4	1	4	2 *	4	3
Total Fatalities.....	351	0	4	234 *	15	4	197	5 *	231	285
Aircraft Hours Flown (000) ¹	6,713	7,069 *	6,834 *	6,698 *	6,915 *	7,736 *	8,265 *	9,452 *	10,009	10,199
Aircraft Miles Flown (000,000) ¹	2,791	2,929 *	2,811 *	2,807 *	2,921 *	3,259 *	3,453 *	3,869 *	4,149	4,169
Departures (000) ¹	5,400	5,567 *	5,420 *	5,162 *	5,235 *	5,666 *	6,069 *	6,974 *	7,170	7,200
Accident Rate Per 100,000 Hours Flown										
Total.....	0.34	0.21 *	0.37 *	0.22 *	0.31 *	0.17 *	0.21	0.21	0.32	0.28
Fatal.....	0.06	0.00	0.06	0.04	0.06	0.01	0.05	0.01	0.03	0.02
Accident Rate Per Million Miles Flown										
Total.....	0.01	0.01	0.01	0.01	0.01	0.00 ²	0.01	0.01	0.01	0.01
Fatal.....	0.00 ²	0.00	0.00 ²	0.00 ²	0.00 ²	0.00	0.00 ²	0.00 ²	0.00 ²	0.00 ²
Accident Rate Per 100,000 Departures										
Total.....	0.43	0.27 *	0.46 *	0.29 *	0.42 *	0.23 *	0.28 *	0.29 *	0.45	0.39
Fatal.....	0.07	0.00	0.07 *	0.06	0.08	0.02	0.07	0.01 *	0.04	0.03

* Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during scheduled 14 CFR 121 operations.

Source: National Transportation Safety Board

¹ Exposure data estimate source: Research and Special Programs Administration.

² Rounds to 0.00.

* Revised.

* Preliminary.

NOTE: The following suicide/sabotage cases are included in "Accidents" and "Fatalities" but not in "Accident Rates".

Date	Location	Operator	Total	Aboard
8/11/82	Honolulu, HI	Pan American	1	1
4/02/86	Near Athens, Greece	Trans World	4	4
12/07/87	San Louis, Obispo, CA	Pacific Southwest	43	43
12/21/88	Lockerbie, Scotland	Pan American	270	259

TABLE 9.6

AIRLINES. NONSCHEDULED SERVICE * ACCIDENTS, FATALITIES AND RATES (U.S. Air Carriers Operating Under 14 CFR 121) 1979 - 1988

	1979	1980	1981	1982	1983	1984	1985	1986	1987 ^r	1988 ^p
Accidents										
Total.....	6	4	1	4	2	4	5	3	5	1
Fatal.....	1	1	0	1	0	0	3	1	1	0
Total Fatalities.....	3	1	0	1	0	0	329	3	1	0
Aircraft Hours Flown (000) ¹	166	310	292	343	384	429	445	473	491	535
Aircraft Miles Flown (000,000) ¹	68	115	109	132	148	169	178	187	223	236
Departures (000) ¹	87	162	155	189	209	233	238	269	280	289
Accident Rate Per 100,000 Hours Flown										
Total.....	3.62	1.29	0.34	1.17	0.52	0.93	1.12	0.64	1.02	0.19
Fatal.....	0.60	0.32	0.00	0.29	0.00	0.00	0.68	0.21	0.20	0.00
Accident Rate Per Million Miles Flown										
Total.....	0.09	0.04	0.01	0.03	0.01	0.02	0.03	0.02	0.02	0.00 ²
Fatal.....	0.02	0.01	0.00	0.01	0.00	0.00	0.02	0.00 ²	0.00 ²	0.00
Accident Rate Per 100,000 Departures										
Total.....	6.93	2.46	0.65	2.12	0.96	1.72	2.10	1.12	1.79	0.35
Fatal.....	1.16	0.62	0.00	0.53	0.00	0.00	1.26	0.37	0.36	0.00

* Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during nonscheduled 14 CFR 121 operations.

Source: National Transportation Safety Board

¹ Exposure data estimate source: Research and Special Programs Administration.

² Rounds to 0.00.

^r Revised.

^p Preliminary.

TABLE 9.7

COMMUTER AIR CARRIERS (Air Carriers Operating Under 14 CFR 135) FATAL ACCIDENTS, FATALITIES (Preliminary Data) 1988

Location	Operator	Date	Service	Aircraft	Fatalities				Total Aboard	Reported Type of Accident
					Total	Passenger	Crew	Others		
Total					21	17	4	0	29	
Bayfield, CO	Trans Colorado	¹ 19	Psgr	SA-227	9	7	2	0	17	Crashed during an instrument approach.
Cary, NC.....	American Eagle	² 19	Psgr	SA-227	12	10	2	0	12	Crashed shortly after takeoff.

Source: National Transportation Safety Board

TABLE 9.8

COMMUTER AIR CARRIERS (U.S. Air Carriers Operating Under 14 CFR 135) * AIRCRAFT ACCIDENTS, FATALITIES AND RATES 1979 - 1988

	1979	1980	1981	1982	1983	1984	1985	1986	1987 ^r	1988 ^p
Accidents										
Total.....	52	38	31	26	17 ^r	22	21	15	34	20
Fatal.....	15	8	9	5	2	7	7	2	12	2
Fatalities	66	37	34	14	11	48	37	4	61	21
Aircraft Hours										
Flown (000) ¹	1,170	1,176	1,241	1,300	1,511	1,746	1,737	1,738 ^r	1,954	2,018
Aircraft Miles										
Flown (000,000) ¹	192	192	193	222	254	291	301	321 ^r	351	363
Departures (000) ¹	1,884	1,777	1,835	2,027	2,328	2,677	2,561	2,663 ^r	2,719	2,800
Accident Rate Per										
100,000 Hours Flown ²										
Total.....	4.44	3.23	2.50	2.00	1.12 ^r	1.26	1.21	0.86 ^r	1.74	0.99
Fatal.....	1.28	0.68	0.72	0.38	0.13	0.40	0.40	0.11 ^r	0.61	0.10
Accident Rate Per										
Million Miles Flown ²										
Total.....	0.27	0.20	0.16	0.12	0.07	0.08	0.07	0.05 ^r	0.10	0.06
Fatal.....	0.08	0.04	0.05	0.02	0.01	0.02	0.02	0.01 ^r	0.03	0.01
Accident Rate Per										
100,000 Departures ²										
Total.....	2.76	2.14	1.69	1.28	0.73 ^r	0.82	0.82	0.56 ^r	1.25	0.71
Fatal.....	0.80	0.45	0.49	0.25	0.09	0.26	0.27	0.08	0.44	0.07

* Includes accidents involving all-cargo air carriers when those accidents occurred during scheduled 14 CFR 135 operations. All-cargo air carriers no longer meet the RSPA definition for "Commuters". May also include accidents involving carriers whose FAA operating specifications permit scheduled revenue operations under 14 CFR 135, but who have not received a RSPA fitness determination.

Source: National Transportation Safety Board.

¹ Exposure data estimates from Research and Special Programs Administration (RSPA).

² Rates are based on all accidents including some involving operators not reporting traffic data to the RSPA.

^r Preliminary.

^p Revised.

TABLE 9.9

ON-DEMAND AIR TAXIS (U.S. Air Carriers Operating Under 14 CFR 135) * AIRCRAFT ACCIDENTS, FATALITIES AND RATES 1979 - '988

Year	Number of Accidents		Total Fatalities	Aircraft Hours Flown ¹ (000)	Accident Rate Per 100,000 Aircraft Hours	
	Total	Fatal			Total Accidents	Fatal Accidents
1979.....	160	30	77	3,684	4.34	0.81
1980.....	171	46	105	3,618	4.73	1.27
1981.....	157	40	94	2,896	5.42	1.38
1982.....	132	31	72	3,257	4.05	0.95
1983.....	141 ^r	27	62	2,575	5.48 ^r	1.05
1984.....	146	23	52	3,079	4.74	0.75
1985.....	152	35	76	2,783	5.46	1.26
1986.....	116 ^r	31 ^r	65 ^r	2,913	3.98 ^r	1.06 ^r
1987 ^r	99	29	64	2,877	3.44	1.01
1988 ^p	97	28	57	2,890	3.36	0.97

Source: National Transportation Safety Board.

¹ Exposure data estimate from FAA.

^r Preliminary.

^p Revised.

TABLE 9.10

U.S. GENERAL AVIATION FLYING (All Operations Other Than Those Operating Under 14 CFR 121 or 14 CFR 135) AIRCRAFT ACCIDENTS, FATALITIES, AND RATES 1979 - 1988

Year	Accidents		Total Fatalities	Aircraft Hours Flown (000) ¹	Accident Rate Per 100,000 Aircraft Hours ^a	
	Total	Fatal			Total	Fatal
1979.....	3,818	631	1,221	38,641	9.88	1.63
1980.....	3,590	618	1,239	36,402	9.86	1.69
1981.....	3,500	654	1,282	36,803	9.51	1.78
1982.....	3,233	591	1,187	32,095	10.06	1.84
1983.....	3,07 ^c	555	1,064	31,048	9.90	1.79
1984.....	3,010	543	1,039	31,510	9.54	1.72
1985.....	2,741	498	950	30,590	8.95	1.62
1986.....	2,581	471 ^r	961 ^r	29,317	8.80	1.61 ^r
1987 ^r	2,471	435	830	29,208	8.46	1.49
1988 ^p	2,332	438	782	29,350	7.95	1.49

^a Suicide/sabotage accidents are excluded from rates.

^p Preliminary.

^r Revised.

Source: National Transportation Safety Board

¹ Exposure data estimate from FAA.

X. AERONAUTICAL PRODUCTION AND IMPORTS/EXPORTS

The aircraft production information presented in this chapter was obtained from the Bureau of Census: Complete Aircraft Plant Report (Form M37G). The shipment data shows the number of civil aircraft shipped by the United States manufacturers and includes both aircraft shipped within the United States and those exported.

Import and export data were obtained from the Aerospace Industries Association of America, Inc. and were based on Bureau of the Census data from special monthly compilation of Annual Reports 246 and 446, respectively.

TABLE 10.1

TOTAL CIVIL AIRCRAFT PRODUCTION, WEIGHT, AND COST CALENDAR YEARS 1979 - 1988

Calendar Year	Number of Aircraft	Airframe Weight (000 lbs.)	Value Complete Aircraft (\$000)	Average Complete Aircraft Cost
1979.....	17,924	77,327	\$11,047,147	\$616,333
1980.....	11,777	97,068	13,043,076	1,107,504
1981.....	10,114	89,076	13,195,029	1,304,630
1982.....	4,053	44,383	8,639,782	2,131,700
1983.....	2,784	44,936	9,915,761	3,561,696
1984.....	2,635	33,450	7,911,543	3,002,483
1985.....	2,457	40,872	10,939,831	4,452,516
1986.....	2,888	NA	12,517,992	4,334,485
1987 ^P	2,319	NA	12,491,743	5,386,394
1988 ^P	2,681	NA	16,019,855	5,975,328

^P Preliminary.^R Revised.

NA No longer available

Source: U.S. Department of Commerce, Bureau of the Census, Industry Division.

TABLE 10.2

NUMBER OF SHIPMENTS OF COMPLETE CIVIL AIRCRAFT 1979 - 1988

Item	1988 ^P	1987 ^R	1986	1985	1984	1983	1982	1981	1980	1979
Total	2,681	2,319	2,888	2,842	3,028	3,217	4,669	11,067	13,130	17,924
Fixed Wing	1,734	1,516	1,858	2,457	2,635	2,784	4,055	10,114	11,777	16,883
Single Engine.....	NA	NA	NA	1,551	1,578	1,697	2,546	6,825	8,175	13,044
Multiengine	NA	NA	NA	906	1,057	1,087	1,509	3,289	3,602	3,839
Rotorcraft	517	360	493	385	393	433	614	953	1,353	1,041
Other	430	443	537	NA	NA	NA	NA	NA	NA	NA

NOTE: Other includes balloons, dirigibles, airships, gliders, sailplanes, and aircraft sold in kits (except hang gliders).

^R Revised.^P Preliminary Data

NA Not available

Source: "Current Industrial Reports: Complete Aircraft and Aircraft Engines," M37G-13; Department of Commerce, Bureau of the Census.

TABLE 10.3

NUMBER OF U.S. IMPORTS OF AEROSPACE PRODUCTS 1979 - 1988

	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Aircraft Used or Rebuilt, Civil	194	115	141	246	223	181	186	160	100	97
Helicopters, Civil	114	98	87	60	61	100	184	213	177	91
Aircraft, Single-Engine, Civil	40	41	71	46	21	6	23	9	6	3
Aircraft, Multiengine Under 4,400 lbs., Civil	3	1	18	8	33	18	13	2	6	5
Aircraft, Multiengine, 4,400 to 10,000 lbs., Civil	74	101	58	46	58	52	87	123	119	86
Aircraft, Multiengine, 10,000 to 33,000 lbs., Civil	152	155	150	103	95	93	159	218	156	102
Aircraft, Multiengine, Over 33,000 lbs., Civil	18	22	36	29	12	7	8	8	16	9
Balloons, and Airships, Civil	0	0	0	0	0	0	0	0	0	0
Gliders, Civil	111	117	181	628	448	229	200	119	73	—

Source: Aerospace Industries Association, Inc. based on Bureau of Census data from special monthly compilation of Annual Report, FT-410.

TABLE 10.4

NUMBER OF U.S. EXPORTS OF AEROSPACE PRODUCTS 1979 - 1988

	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Aircraft Used or Rebuilt, Civil	1,644	969	494	277	304	224	242	501	494	578
Aircraft Helicopter, New, Under 2200 lbs., Civil	161	129	104	68	155	141	162	268	335	294
Aircraft, Helicopter, New, Over 2200 lbs., Civil	119	152	106	69	78	75	92	185	190	165
Aircraft, Single-Engine New Civil	459	307	220	334	271	279	539	1,800	2,172	2,821
Aircraft, Multiengine, New, Under 4400 lbs., Civil	51	51	63	66	53	106	167	371	546	645
Aircraft, Multiengine, New, Over 4400 lbs., Under 10,000 lbs., Civil	109	127	93	65	83	112	209	426	432	360
Aircraft, Multiengine, New, Over 10,000 lbs., Under 33,000 lbs., Civil	24	24	38	19	18	22	25	20	28	52
Aircraft, Passenger, New, Over 33,000 lbs., Civil	205	160	149	140	77	122	110	236	215	172
Aircraft, Cargo, New, Over 33,000 lbs., Civil	8	4	2	6	3	2	6	7	8	13
Aircraft Other, New, Over 33,000 lbs., Including Combinations, Civil	4	6	8	6	3	5	5	12	14	15
Aircraft Other, New, Including Balloons, Gliders & Kites, Civil	0	0	0	0	0	0	0	0	0	0

Source: Aerospace Industries Association, Inc. based on Bureau of Census data from special monthly compilation of Annual Report, FT-446.

COMMON ACRONYMS

AAS.....	Airport Advisory Service
ADF.....	Automatic Direction Finder
ARSR.....	Air Route Surveillance Radar
ARTCC.....	Air Route Traffic Control Center
ASR.....	Airport Surveillance Radar
ATC.....	Air Traffic Control
ATCT.....	Airport Traffic Control Tower
CAB.....	Civil Aeronautics Board
DME.....	Distance Measuring Equipment
DVFR.....	Defense Visual Flight Rules
FAA.....	Federal Aviation Administration
FAR.....	Federal Aviation Regulation
FSS.....	Flight Service Station
ICAO.....	International Civil Aviation Organization (Montreal, Canada)
IFR.....	Instrument Flight Rules
IFSS.....	International Flight Service Station
ILS.....	Instrument Landing System
LDA.....	Landing Directional Aid
LRNAV.....	Long Range Navigation
MLS.....	Microwave Landing System
NAS.....	National Airspace System
NAVAIDS.....	Navigation Aids
NOTAMS.....	Notice to Airmen
NTSB.....	National Transportation Safety Board
RNAV.....	Area Navigation
RSPA.....	Research and Special Programs Administration
VFR.....	Visual Flight Rules
VHR.....	Very High Frequency
VOR/VORTAC.....	Very High Frequency Omnidirectional Radio Range

GLOSSARY

Active Aircraft—All legally registered civil aircraft which flew one or more hours.

Aerial Application—See Primary Use.

Aerial Observation—See Primary Use.

Air Carriers—The commercial system of air transportation consisting of the certificated air carriers, air taxis (including commuters), supplemental air carriers, commercial operators of large aircraft, and air travel clubs.

Certificated air carrier—An air carrier holding a Certificate of Public Convenience and Necessity issued by DOT to conduct scheduled services interstate. Nonscheduled or charter operations may also be conducted by these carriers. These carriers operate large aircraft (30 seats or more or a maximum payload capacity of 7,500 pounds or more) in accordance with FAR Part 12.

Air taxi—A classification of air carriers which transport in accordance with FAR part 135 persons, property, and mail using small aircraft (under 30 seats or a maximum payload capacity of less than 7,500 pounds).

Commuter air carrier—an air taxi operator which performs at least five round trips per week between two or more points and publishes flight schedules which specify the times, days of the week, and points between which such flights are performed.

Supplemental air carrier (Charter)—An air carrier which holds Certificates of Public Convenience and Necessity issued by the DOT, authorizing performance of passenger and cargo interstate charter services supplementing the scheduled service of the certificated air carriers. The authority of supplemental air carriers to engage in military charters is of an indefinite period. In addition, they can perform on an emergency basis, as may be authorized by the DOT, scheduled operations including the transportation of individually ticketed passengers and individually waybilled cargo.

Commercial operator—a person who for compensation or hire engages in the intrastate carriage of aircraft in air commerce of persons or property other than as an air carrier or foreign air carrier.

Commercial operator of large aircraft—commercial operator operating aircraft with 30 seats or more or a maximum payload capacity of 7,500 pounds or more.

Air Travel Club—a person who engages in the carriage by airplanes of persons who are required to qualify for that carriage by payment of an assessment, dues, membership fee, or other similar types of remittance.

Air Accident—As defined by the National Transportation Safety Board, it is "an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, and in which any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or in which the aircraft receives substantial damage."

Fatal Injury means any injury which results in death within 7 days of the accident.

Operator means any person who causes or authorizes the operation of an aircraft, such as the owner, leasee, or bailee of an aircraft.

Serious Injury means any injury which (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) involves lacerations which cause severe hemorrhages, nerve, muscle, or tendon damage; (4) involves injury to any internal organ; (5) involves second-or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Substantial damage:

- (1) Except as provided in subparagraph (2) of this paragraph, substantial damage means damage or structural failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component.
- (2) Engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, damage to landing gear, wheels, tires, flaps, engine accessories, brakes or wingtips are not considered substantial for the purpose of this part.

Aircraft Contact—Aircraft with which the flight service station (FSS) have established radio communications contact. One count is made for each en route, landing, or departing aircraft contacted by an FSS regardless of the number of contacts made with an individual aircraft during the same flight. A flight contacting five FSS's would be counted as five aircraft contacted.

Aircraft Handled—See IFR Aircraft Handled.

Aircraft Type—A term used in this publication in grouping aircraft by basic configuration—fixed-wing, rotorcraft, glider, dirigible, and balloon.

Air Defense Identification Zone—The area airspace over land or water within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

Airline Transport Pilot—See Pilot.

Airman—A pilot, mechanic, or other licensed aviation technician.

Airman Certificates—A document issued by the Administrator of the Federal Aviation Administration certifying that the holder complies with the regulations governing the capacity in which the certificates authorizes the holder to act as an airman in connection with aircraft.

Airport—An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

Airport Advisory Service (AAS)—A service provided by flight service stations at airports not served by a control tower. This service consists of providing information to landing and departing aircraft concerning wind direction and velocity, favored runway, altimeter setting, pertinent known traffic, pertinent known field conditions, airport taxi routes and traffic patterns, and authorized instrument approach procedures.

Airport Operation—The airborne movement of aircraft in controlled or noncontrolled airport terminal areas and about given en route fixes or at other points where counts can be made. There are two types of operations—local and itinerant.

Local operations are performed by aircraft which:

- (a) Operate in the local traffic pattern or within sight of the airport.
- (b) Are known to be departing for, or arriving from, flight in local practice areas within a 20-mile radius of the airport.
- (c) Execute simulated instrument approaches or low passes at the airport.

Itinerant Operations are all airport operations other than local operations.

Airport surveillance Radar—providing position of aircraft by azimuth and range data. ASR does not provide elevation data. It is designed for range coverage up to 60 nautical miles and is used by terminal area air traffic control.

Airport Traffic—Aircraft operating in the air or on an airport surface exclusive of loading ramps and parking areas.

Airport Traffic Control Service—Air traffic control service provided by an airport traffic control tower for aircraft operating on the movement area and in the vicinity of an airport.

Airport Traffic Control Tower (ATCT)—A central operations facility in the terminal air traffic control system, which consist of a tower cab structure, including an associated IFR room if radar equipped, and uses air/ground communications, radar, visual signaling, and other services to provide safe and expeditious movement of terminal air traffic.

Airports Grant-in Aid Program—A grant of funds by the Secretary of Transportation under the Airport & Airway Improvement Act of 1982 to a sponsor for the accomplishment of one or more projects.

- Project**—Projects (or separate projects submitted together) for the accomplishment of airport development or airport planning, including the combined submission of all projects which are to be undertaken at an airport in a fiscal year.

- Sponsor**—Any private owner of a public-use air OR any public agency (either individually or jointly with other public agencies) that submit to the Secretary of Transportation, in accordance with the Airport & Airway Improvement Act of 1982, and application for financial assistance.

- Primary Airports**—A commercial service airport which is determined to have .01 percent or more of the total number of passengers enplaned annually at all commercial service airports.

- Commercial Airports**—(also known as commercial service airports)—A public airport which is determined to enplane annually 2,500 or more passengers and receive scheduled passenger service of aircraft.

- Reliever Airports**—An airport designated as having the function of relieving congestion at a commercial service airport and providing more general aviation access to the overall community.

- General Aviation Airports**—(also known as public airports)—Any airport which is used or to be used for public purposes, under the control of a public agency, the landing area of which is publicly owned.

- System Planning**—(also known as integrated airport system planning)—The initial, as well as continuing development for planning purposes of information and guidance to determine the extent, type, nature, location, and timing of airport development needed in a specific area to establish a viable balanced, and integrated system of public-use airports.

Airports of Entry—Aircraft may land at these airports without prior permission to land from U.S. Customs.

Air Route Traffic Control Center (ARTCC)—A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace, and principally during the en route phase of flight.

Air Taxi—See Air Carrier and Primary Use.

Air Traffic Control (ATC)—A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Air Traffic Control Facility—A facility which provides air traffic control services located in the U.S., its possessions and territories, and in foreign countries especially established by international agreement.

Air Traffic Hub—Air traffic hubs are not airports; they are the cities and Standards Metropolitan Statistical Areas requiring aviation services. Communities fall into four classes as determined by each community's percentage of the total enplaned passengers in scheduled service of the fixed-wing operations of the domestic certificated air carriers in the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration.

Large air traffic hub—A community enplaning 1.00 percent or more of the total enplaned passengers.

- Medium air traffic hub—A community enplaning from 0.25 to 0.99 percent of the total enplaned passengers.
- Small air traffic hub—A community enplaning from 0.05 to 0.24 percent of the total enplaned passengers.
- Nonhub—A community enplaning less than 0.05 percent of the total enplaned passengers.

Air Travel Club—See Air Carrier.

All-Cargo Carrier (418)—One of a class of air carriers holding an All Cargo Air Service Certificate issued under section 418 of the Federal Aviation Act and certificated in accordance with FAR part 121 to provide domestic air transportation of cargo.

Altitude Encoding—(Automatic Altitude Reporting)—An aircraft altitude transmitted via the Mode C transponder feature that is visually displayed in 100 feet increments on the ground radar scope having readout capability.

American Flag Carrier—See U.S. Flag Carrier.

Approach Control Facility—A terminal area traffic control facility providing approach control service.

Approach Control Service—Air traffic control service provided by an approach control-facility for arriving and departing aircraft and, on occasion, tower en route control service.

Area Navigation (RNAV)—A method of using navigation instruments that allows pilots flexibility to fly direct routes between waypoints or offset from published or established routes/airways at specified distance and direction.

Automatic Direction Finder (ADF)—An aircraft radio navigation system which senses and indicate the direction to a non-directional radio beacon ground transmitter. Direction is indicated to the pilot as a magnetic bearing or as a relative bearing to the longitudinal axis of the aircraft.

Automatic Pilot—An aircraft can be controlled about the roll, pitch, and yaw axis by use of an automatic pilot. Information from OVR, ILS, MLS, and other navigation aids can be coupled to the automatic pilot for en route and approach flights.

Business Transportation—See Primary Use.

Carrier Group—A grouping of certificated air carriers determined by annual operating revenues as shown below:

Carrier Group	Annual Operating Revenues
Majors	over one billion dollars
Nationals	—100 million to one billion dollars
Large regionals	10 to 100 million dollars
Medium regionals	up to 10 million dollars or that operate aircraft with 60 or less seats or maximum payload capacity of 18,000 lbs.

Certificate of Public Convenience and Necessity—A certificate issued to an air carrier under Section 401 of the Federal Aviation Act by Department of Transportation (DOT) authorizing the carrier to engage in air transportation.

Certificated Route Air Carrier—See Air Carrier.

Commercial Operator—See Air Carrier.

Commercial Pilot—See Pilot.

Commuter Air Carrier—See Air Carrier.

Controlled Airspace—Airspace control area designated as a continental control area, control zone, terminal control areas, or transition area, within which some or all aircraft may be subject to air traffic control.

Defense Visual Flight Rules (DVFR)—A flight within an Air Defense Identification Zone conducted under the visual flight rules in Federal Aviation Regulation, Part 99.

Distance Measuring Equipment (DME)—Airborne and ground equipment used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.

Domestic Operation—In general, operations within and between the 50 States, and the District of Columbia.

Executive Transportation—See Primary Use.

Flight Advisory Service—Advice and information provided by a facility to assist pilots in the safe conduct of flight and aircraft movement.

Flight Plan—Specified oral or written information about the intended flight of an aircraft that is filed with air traffic control.

Flight Service Station (FSS)—Air traffic Service facilities within the National Airspace System (NAS) which provide pre-flight pilot briefings and en route communications with VFR flights, assist lost IFR/VFR aircraft, assist aircraft having emergencies, relay Air Traffic Control clearances, originate, classify, and disseminate Notices to Airmen, broadcast aviation weather and NAS information, receive the close flight plans, monitor radio NAVAIDS, notify search and rescue units of missing VFR aircraft, and operate the national weather teletypewriter system. In addition, at selected locations, FSSs take weather observations, issue airport advisories, administer airmen written examinations, and advise Customs and Immigration of across-the-border flights.

Flight Service—The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted. See tables 2.6 and 2.14.

Foreign Flag Air Carrier—An air carrier other than a U.S. flag air carrier engaged in international air transportation (see also U.S. Flag Carrier).

Foreign Mail—Mail transported outside the United States by U.S. flag carrier for a foreign government.

General Aviation—That portion of civil aviation which encompasses all facets of aviation except air carriers.

Glide Slope—See Instrument Landing System.

Heliport—An area of land, water, or any structure used or intended to be used for the landing and takeoff of helicopters.

Hub—See Air Traffic Hub.

IFR Aircraft Handled—The number of IFR departures multiplied by two plus the number of IFR overs. This definition assumes that the number of departures (acceptances, extensions, and originations of IFR flight plans) is equal to the number of landings (IFR flight plans closed).

IFR Departure—An IFR departure includes IFR flights originating in center's area, accepted by the center under SOLE EN ROUTE clearance procedures, and extended by the center.

IFR Over—An IFR flight that originates outside the ARTCC area and passes through the area without landing.

Inactive Aircraft—All legally registered civil aircraft which flew hours.

Instructional Flying—See Primary Use.

Instrument Approach—An approach to an airport, with intent to land, by an aircraft flying in accordance with an IFR flight plan, when the visibility is less than 3 miles and/or when the ceiling is at or below the minimum initial altitude.

Instrument Flight Rules (IFR)—Rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

Instrument Landing System (ILS)—A precision instrument approach system which normally consists of the following electronic and visual aids:

- Localizer**—Provides course guidance to the runway.

- Glide Slope**—Provides vertical guidance during approach.

- Marker Beacon**—Provides aural and/or visual identification of a specific position along an instrument approach landing.

Instrument Operation—An aircraft operation in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal control facility or air route traffic control center.

International Flight Service Station (IFSS)—A central operations facility in the flight advisory system, staffed and equipped to control aeronautical point-to-point telecommunications, and air-ground telecommunications with pilots operating over international territory or waters, which provides flight plan following, weather information, search and rescue action, and other flight assistance operations.

International Operations—In general, operations outside the territory of the U.S., including operations between the U.S. and foreign countries, and the U.S. and its territories or possessions. Includes both the combination passenger/cargo carrier and the all-cargo carriers engaged in international and territorial operations.

Itinerant Operation—See Airport Operation.

Jet Route—A route designed to serve aircraft operations from 18,000 feet to 45,000 feet.

Landing Rights Airports—Any aircraft may land at one of these airports after securing prior permission to land from U.S. Customs.

Large Air Traffic Hub—See Air Traffic Hub.

Large Regional Carrier—See Carrier Groups.

Large Certificated Air Carrier—Carrier holding a certificate issued under section 401 of the Federal Aviation Act of 1958 and operating aircraft designed to have a maximum passenger seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds, or conducting international operations.

Localizer—See Instrument Landing System.

Local Operation—See Airport Operation.

Long Range Navigation—A method of navigation that permits navigation over long distances. This is in contrast to the relatively short range navigation provided by the VOR system.

Major Carriers—See Carrier Groups.

Marker—See Instrument Landing System.

Medium Air Traffic Hub—See Air Traffic Hub.

Medium Regional Carrier—See Carrier Groups.

Microwave Landing System (MLS)—An instrument landing system operating in the microwave spectrum which provides lateral and vertical guidance to aircraft having compatible avionics equipment.

Mode C—See Altitude Encoding.

National Carriers—See Carrier Groups.

Nondirection Radio Beacon—A radio beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine headings to or from the radio beacon and "home" on a track to or from the station.

Nonhub—See Air Traffic Hub.

Notice to Airmen—A notice containing information concerning the establishment, condition or change in any component of, of hazard in the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

Other—See Primary Use.

Other Work Use—See Primary Use.

Over—See IFR Over.

Personal Flying—See Primary Use.

Pilot—

- Student Pilot**—A student pilot may not operate an aircraft that is carrying a passenger or that is carrying property for compensation or hire.

- Private Pilot**—A private pilot may not act as a pilot-in-command of aircraft that is carrying passengers for compensation or hire nor may a private pilot act as pilot-in-command for compensation or hire.

- Airline Transport Pilot**—An airline transport pilot may act as a pilot-in-command of an aircraft engaged in air carrier service.

Pilot Briefing—Information furnished a pilot to assist in flight planning. Principal items are weather conditions, notices to airmen, routes, and preparation and handling of the flight plan.

Positive Control—Control of all air traffic, within designated airspace, by air traffic control.

Primary Use—The use category in which an aircraft flew the most hours. The eleven use categories are defined below:

- Aerial Application**—An use of an aircraft for work purposes which concerns the production of foods, fibers, and health control in which the aircraft is used in lieu of farm implements or ground vehicles for the particular task accomplished. This includes firefighting operations, the distribution of chemicals or seeds in agriculture, reforestation/ or insect control.

- Aerial Observation**—Any use of an aircraft for aerial mapping/photography, survey, patrol, fish spotting, search and rescue, hunting, highway traffic advisory, or sightseeing; not include under Part 135.

- Commuter Air Carrier**—An air taxi that performs at least five scheduled round trips per week between two or more points or carriers mail.

- Demand Air Taxi**—Use of an aircraft operating under Federal Aviation Regulations, Part 135, passenger and cargo operations, including charter and excluding commuter air carrier.
- Business Transportation**—Use of an aircraft not for compensation or hire by individuals for the purposes of transportation required by business in which they are engaged.
- Executive/Corporate Transportation**—Any use of an aircraft by a corporation, company, or other organization for the purposes of transporting its employees and/or property not for compensation or hire, and employing professional pilots for the operation of the aircraft.
- Instructional Flying**—Any use of an aircraft for the purpose of formal instruction with the flying instructor aboard, or with the maneuvers on the particular flight(s) specified by the flight instructor; excludes proficiency flying.
- Personal Flying**—Any use of an aircraft for personal purposes not associated with a business or profession, and not for hire. This includes maintenance of pilot proficiency.
- Rental Aircraft**—Aircraft owned for the purpose of renting; commercial flying club, leased, and rental aircraft activity.
- Other Work Use**—Any aircraft used for construction work (not included under Part 135), helicopter, hoist, towing gliders, or parachuting.
- Other**—Any other use of an aircraft not included above. (Example: experimentation, R&D; testing, demonstration, government).

Private Pilot—See Pilot.

Private-Use Airport—An airport which is not open for the use of the general public.

Privately Owned Airport—An airport which is owned by a private individual or corporation.

Publicly Owned Airport—An airport which is publicly owned and under control of a public agency.

Public-Use Airport—An airport open to for public use without prior permission, and without restrictions within the physical capacities of available facilities. May or may not be publicly owned.

Radar Altimeter—Aircraft instrument that makes use of the reflection of radio waves from the ground to determine the height of the aircraft above the surface.

Registered Aircraft—Aircraft registered with the Federal Aviation Administration.

Rental Aircraft—See Primary Use.

RNAV—See Area Navigation.

Small Air Traffic Hub—See Air Traffic Hub.

Small Certificated Air Carrier—Carrier holding a certificate issued under section 401 of the Federal Aviation Act of 1958 and operating aircraft designed to have a maximum seating capacity of 60 or less seat or a maximum payload of 18,000 pounds or less.

Stolport—An airport specifically designed for STOL (Short Take-off and Landing) aircraft, separate from conventional airport facilities.

Student Pilot—See Pilot.

Supplemental Air Carrier—See Air Carrier.

Terminal Air—A general term used to describe airspace in which approach control service or airport traffic control service is provided.

Tower—See Airport Traffic Control Tower.

Transponder—The airborne radar beacon receiver/transmitter portion of the Air Traffic Control Beacon System that automatically receives radio signals from interrogators on the ground and selectively replies with specific reply pulse-on-pulse group, only those interrogations being received on the mode to which it is set to respond. Each aircraft transponder is capable of replying to 4,096 codes as selected by the pilot. Provides the air traffic controller positive location and, in some cases, altitude information.

U.S. Flag Carrier or American Flag Carrier—One of a class of air carriers holding a Certificate of Public Convenience and Necessity issued by the DO, approved by the President, authorizing scheduled operations over specified routes between the United States (and/or its territories) and one or more foreign countries. (See also Foreign Flag Air Carrier).

VFR Flight—Flight conducted in accordance with Visual Flight Rules.

VHF Communications—Provides radio voice communications between aircraft and ground stations, also between aircraft. Very high Frequency (VHF) is limited in range (line of sight) and usually used for air traffic communications.

VOR—Very high frequency omnidirectional radio range. Used as the basis for navigation in the national Airspace System.

VORTAC—A navigation aid providing azimuth and distance measuring equipment as one site.

Weather Radar—Provide the flight crew with visual display of weather that could contain turbulence. The system's primary function is to assist in turbulence avoidance, although most airborne radar systems are also capable of terrain mapping.